Habitat Modification Techniques

(MECHANICAL, BIOLOGICAL, HERBICIDE & SPECIAL)

Habitat Extension Bulletin No. 34

A variety of techniques exist for modifying or improving wildlife habitat. It should be kept in mind that these techniques or improvements are usually cures for existing problems caused by other factors. This is especially the case where the goal is to improve range condition. Prior to applying any of these techniques, the land manager should evaluate the effects of past management and correct existing problems.

Most habitat improvement techniques involve changing or modifying vegetation or communities. These techniques are the focus of this bulletin. Other techniques which add or modify a key habitat component are mentioned only briefly.

This bulletin breaks down the majority of these techniques or modifications into four major categories: mechanical, biological, herbicidal and special. Under each heading is a list of appropriate techniques and an explanation of their use. This bulletin does not reflect every habitat modification technique available, all potential uses of each technique described or the effects of each technique on all species of wildlife encountered. The listing and general description sections will give the reader an idea of how techniques have been used and stimulate additional thought relative to other uses of the same techniques.

Mechanical Methods

Mechanical methods of habitat improvement involve the use of motorized equipment and implements. A wide variety of mechanical techniques are available to address a large number of habitat improvement objectives. These techniques can be placed under four major headings which describe their general purpose: pitting, shrub and tree control or rejuvenation, vegetation establishment and fertilization.

Pitting

Range pitting provides additional water to plants by creating small depressions in the soil or removing a component from the existing vegetation (such as shrubs or mat-forming forbs) to allow greater production in the plants that remain.

Blasting to create a pothole

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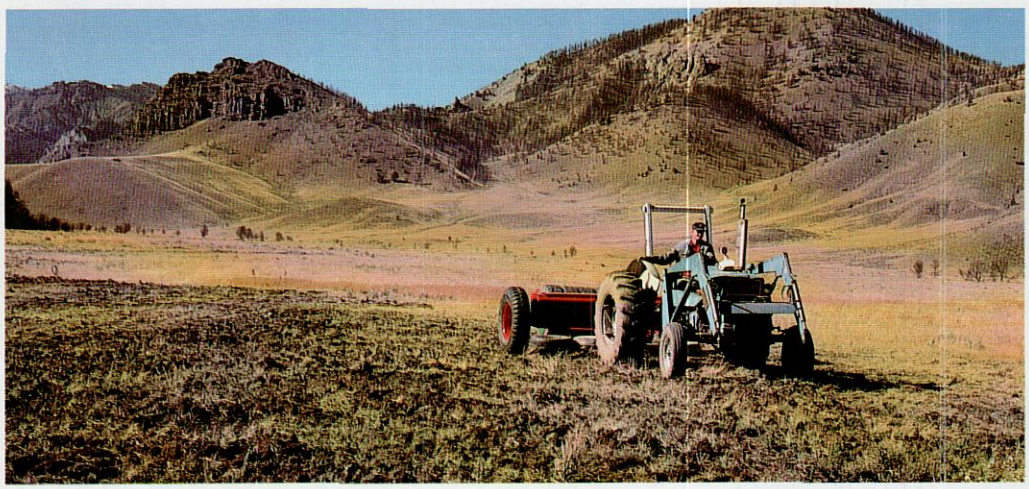
Pitting may be done with range pitters, Hodder gougers, modified Wheatland plows or land imprinters. Other equipment may also be capable of similar habitat modification. In the case of the first three pieces of equipment, soil pits are actually gouged using either a three-quarter disc or steel blades mounted on a frame that is alternately raised and lowered. In either case, soil is scooped out, creating small depressions. Increases in vegetation production of greater than 200 percent have been observed where pitting has been used in a community dominated by mat-forming plant species. Grasses usually benefitted most. These techniques have been used successfully to improve both elk and bighorn sheep ranges. In some cases, as with the Hodder gouger, seeding may accompany treatments and be performed during the pitting. In most cases, however, seeding of grasses is probably not necessary, especially on native range with some existing grass production.

The land imprinter or rolling crusher is the fourth piece of equipment used for soil pitting. Land imprinters accomplish objectives similar to range pitters without the actual tillage. The imprinter is essentially a large rolling drum with various (usually V-shaped) metal attachments welded to it. As it is pulled over the ground, imprints or depressions are made in the soil which, depending upon soil type, trap and hold water. These imprinted areas also lend themselves to the establishment of broadcast seed. As mentioned previously, seeding may not be necessary, especially if grass and forb production already exists.

The imprinter is also capable of crushing and chopping brush and mixing the debris and seed with the soil. The imprinter may not work well in dense brush stands or sprouting brush. Shrubs over three inches in diameter may require prior treatments designed to reduce the densities of these larger trees and shrubs.

While this method has potential for the improvement of big game ranges, it has been used very little. Potential exists to improve most big game species habitat with this method, depending upon the objectives. There is also potential for its use for willow rejuvenation for moose winter range.

Contour furrowing is another method used to trap and hold additional moisture. This technique uses equipment to build small furrows perpendicular to the slope for catching water. This technique improves deteriorated range by breaking up compacted soil, preventing soil erosion and increasing soil moisture. Contour furrowing also provides a seed bed much like other pitting methods.



Wildlife managers often have to disturb vegetation in order to improve habitat. This range pitter crates shallow holes in old sod, trapping moisture and encouraging new growth of grass and forbs.

Shrub and Tree Control or Rejuvenation

There are more mechanical treatment techniques for shrubs and trees than for any other habitat. The majority of these techniques were developed to decrease shrub or tree growth and increase grass production for domestic livestock. Many of these techniques have also been used to increase grass production for wildlife species such as elk. More recently, these techniques have been used for tree and/or shrub stand renovation. Many tree and shrub communities have historically depended on periodic fires to "turn over" the community and prevent its old age and subsequent deterioration. Chaining or cabling, pipe harrowing, railing, rotobeating or rotary mowing, timber management and other miscellaneous techniques have all been used successfully to rejuvenate these communities.

Many of these techniques have also been proposed for use on sagebrush communities on mule deer winter range. While short-term declines in the production and density of the tree or shrub component will occur, the long-term results will be a younger, more vigorous and productive stand. Post-treatment management is key to the final outcome of the improvement technique.

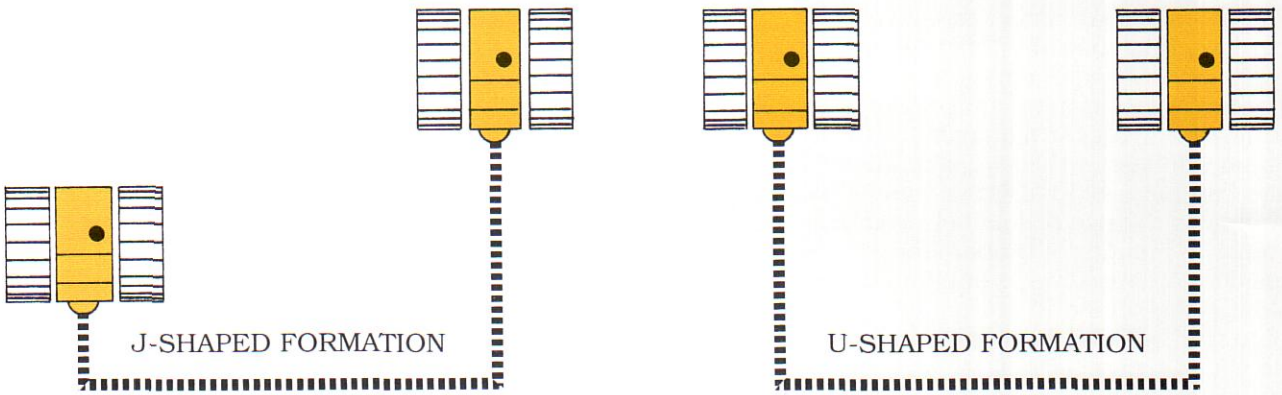
1. Chaining/Cabling — This technique involves the use of two dozers which pull a large chain or cable between them in either a U- or J-shaped formation.

The pattern in which the chain is pulled as well as the type of chain used determines the severity of the treatment. The J-shaped configuration has a greater effect on shrubs. As the chain or cable drags across vegetation, it breaks off or rips out larger shrubs or trees, thereby reducing shrub or tree density. Chaining and cabling have been used primarily for shrub/tree control or reduction but are also considered rejuvenation techniques. Initially, shrub/tree density is reduced through the removal of the older, larger plants. This makes way for younger plants and seedlings through the removal of much of the competitive overstory. The length of time required for the rejuvenation of the shrub/tree stand will vary with the season of treatment, post-treatment management, soil types and climatic factors. Sprouting species such as aspen or serviceberry will re-establish themselves sooner than non-sprouting species such as sagebrush or bitterbrush.

Chaining also helps cover previously broadcast seed and prepares the site for burning. There are a few ways to modify the effect of chaining and cabling. The kind of chain or chain attachments (i.e., Ely chain, ball chain, disk chain) makes a difference. So do the number of cables used and the towing pattern of the chain or cable. Altering and/or combining these factors makes it possible to increase or decrease the severity of the treatment. Also, cabling tends to be somewhat less severe and also somewhat cheaper than chaining because smaller machinery can be used and the cable can be pulled at a slightly higher speed, reducing the time required to accomplish the treatments. Rough and/or rocky country or shrubs which have flexible stems that resist breaking may limit the effectiveness of these treatments.

2. Pipe Harrowing — The pipe harrow is designed to be towed behind a bulldozer or tractor. The pipe harrow works best for thinning low-growing, brittle shrubs and is also useful for scarifying soil and covering broadcast seed. The pipe harrow tends to be more effective in rocky areas than many other techniques. Conversely, the pipe harrow has limited effectiveness in rock-free areas and provides little control of taller, more flexible shrubs. As with chaining/cabling techniques, pipe harrowing is effective at removing the shrub component and encouraging grasses or renovating older, decadent shrub/tree stands.

CHAINING PATTERNS



3. Railing — Railing is similar to chaining/cabling and pipe harrowing in both function and objectives. Railing is accomplished by pulling sections of railroad rails (which may or may not be mounted on a rigid frame) behind a bulldozer or tractor. The heavy rails crush or break off shrubs, allowing increased production of herbaceous plants. Railing may also rejuvenate or "turn over" decadent shrub stands. Finally, this technique can be used in combination with herbicide treatments and is also suitable for covering broadcast seed.

4. Rotobeating/Rotary Mowing — The main purpose of these treatment methods is to reduce the height of existing vegetation. This is accomplished with a rotary mower or a number of flails or stirrup cutters mounted on a revolving horizontal shaft. Rotobeating or rotary mowing has been used in a number of cases for improving wildlife habitat. Past use includes partial control or reduction of cattail densities to optimize the cover:surface water ratio for waterfowl use. This was done by draining a pond and mowing the cattails in a mosaic pattern prior to refilling the pond.

Rotary mowing or rotobeating is also used for the rejuvenation or control of sagebrush stands. If only a portion of the sagebrush plants are cut, it

is possible to increase the vigor of the remaining plants near the mowed swath as well as the shorter plants in the swath which escape cutting. Through the use of proper cutting heights, older, less productive plants can be eliminated thereby increasing the vigor of the remaining plants. Tall grass-forb stands need periodic rejuvenation which can be accomplished either through mowing or burning. Although more costly than prescribed burning, rotary mowing has been used for the rejuvenation of these kinds of stands. Rotary mowing of older, less productive stands has been done with satisfactory results.

5. Timber Management — Past timber management and harvesting operations have often been condemned by wildlife managers in part because layout and design of timber sales have not taken wildlife into account. In many cases, clearcuts were too large; extensive road systems remained open for public use after operations halted, and other wildlife components such as dead snags were not a part of the management plan. Currently, public timber managers must design timber sales to lessen their impact on wildlife. Timber sales can be used to improve wildlife habitat. One example is the use of small clearcuts to open up extensive, monotypic timber stands. Small openings develop into diverse habitats which benefit wildlife in general and normally produce additional food sources for large animals such as deer and elk. Certain optimal forage:cover ratios exist for species such as these, and timber harvesting can be used to achieve these optimal ratios.

Clearcutting can also serve to perpetuate aspen stands. Aspen typically require some type of disturbance to perpetuate the stand. Historically, wildfire served this purpose, killing adult trees and encouraging new plants to sucker from underground root systems. Selectively cutting conifers from aspen stands and clearcutting aspen and adjacent conifers serve to rejuvenate aspen stands as wildfire once did.

A major problem with timber harvesting relative to wildlife habitat is the road systems which are constructed to haul trees. In many cases, road closures are not enforced and any wildlife benefits incurred through timber harvesting are negated by the increased use of the area by people. The advent and extensive use of three- and four-wheel ATVs compound the problem because of the increased ease with which riders can use closed areas.

6. Miscellaneous Techniques — Other methods exist for shrub/tree control but have been used on a limited basis due to expense or limited improvement of wildlife habitat. These include but are not be limited to: bulldozers (shrub/tree control); brush combs or rakes (used to remove shrubs/trees or pile slash and brush for burning); grubbers (for removing individual trees); root plows (for brush removal and shredding); subsoilers, rippers and trenchers (for increasing water infiltration and root penetration as well as breaking up compacted soils); chisel plows (for increasing water infiltration and breaking up compacted soil); and brushland plows (for shrub control).

While mechanical treatments are expensive, they offer greater treatment control and effectiveness. Establishing specific objectives is important prior to treatment. Improper use of any of these methods can be detrimental to the wildlife whose habitats you are trying to improve. It may be beneficial to seek assistance from the Wyoming Game and Fish Department in setting objectives, planning habitat treatments and selecting the best treatment methods to accomplish these objectives.

Seeding and Planting

Generally speaking, seeding and planting vegetation can be considered a mechanical habitat modification technique because it usually requires the use of mechanized equipment. A great many habitat improvement techniques involve seeding and/or planting vegetation. Generally, seeding/planting can be broken down into three broad categories: woody vegetation establishment, perennial forage/cover plantings and annual food/cover plantings. Specific examples of each of these include:

woody plantings — shelterbelt establishment, random tree/shrub establishment, willow establishment (riparian community);

permanent vegetation — nesting cover (upland birds and waterfowl) , hiding cover, forage/food improvement, added diversity;

Because many wild seeds are small and often covered with hair or chaff, they can be difficult to plant with typical farm machinery. Drills can be modified to handle wild seed, however.

annual plantings — food/cover planting, cover crop for permanent vegetation establishment.

Numerous species-specific goals can be formulated for various seeding or planting techniques. Some goals which could be met using these techniques include: improvement of big game winter range (or other seasonal ranges); improvement or establishment of upland game bird/waterfowl nesting/hiding cover; increasing habitat diversity and increasing forage, browse or seed production for various species of wildlife. The potential for the use of seeding/planting to improve wildlife habitat is vast, and these categories and goals touch only on a portion of that potential. Numerous techniques also exist for any type of seeding or planting which is to be done from seedbed preparation to weed control. These are too extensive to list here; however, certain variables should be considered prior to and during any vegetation establishment. Some variables to consider include:

annual precipitation — Soil variables (moisture, texture, temperature, fertility, salt content);

length of growing season; site suitability (specifics for certain species);

weed control (pre- and post-planting/seeding)

drifting snow insect/rodent damage;

maintenance of plantings — (periodic burning or mowing of grass-legume mixtures, replacement of dead trees in shelterbelts, etc.);

irrigation — (if needed, as in the case of most shelterbelts).

While seeding and planting can greatly improve wildlife habitats, these techniques can also be very expensive. Grass-legume seed mixtures can easily cost over $20 per acre alone. Yet these techniques remain some of the most popular for improvement of wildlife habitat. Practically anyone who has worked with wildlife habitat has been involved with seeding and/or planting of vegetation at one time or another which helps illustrate the value of this

Many local soil conservation districts will provide seedling trees for windbreaks (above and left) and may even help plant them. Advice and funding may be available from other sources as well. Check with your local Game and Fish Department office for details.

The concept of diversity for wildlife applies to streams as well as to terrestrial habitats. Large rocks or wing dams (right) create deeper water for fish and may improve dissolved oxygen content as well.

technique as a habitat improvement tool. Further information relative to wildlife-preferred vegetative species, vegetation adaptability or the techniques for the establishment of vegetation may be obtained from either the Wyoming Game and Fish Department or the Soil Conservation Service.

Biological Methods

The second major category of habitat improvement techniques may be classified as biological. A simple definition might be:

any habitat modification technique which uses the effects of a natural process.

Two techniques belonging to this category are prescribed fire and domestic livestock grazing. While livestock may not be considered natural, grazing by other ungulates has historically contributed to various habitat changes. As mentioned here, grazing refers exclusively to the use of domestic livestock to alter or control vegetation.

Prescribed Fire

Prescribed fires are those which have been set by man under a certain set of prescribed conditions to accomplish specific vegetative objectives. Prescribed fires, where feasible, are preferred by most wildlife managers as a habitat modification technique. The use of prescribed burning requires considerable expertise for development of the burn plan and execution of the actual burn. Numerous books and papers have been written on the effects of fire on both plants and animals and should be used for establishing proper goals and objectives. Prescribed burning is used to achieve a variety of objectives.

1. Increase vegetative diversity.
2. Increase forage productivity, especially on elk and bighorn sheep ranges.
3. Decrease or eliminate conifer overstory to expand bighorn sheep ranges and other big game winter ranges.
4. Stimulate decadent shrub stands to increase their vigor and productivity on deer and antelope winter ranges.
5. Increase grass/forb production and diversity on deer/antelope transitional ranges.
6. Rejuvenate decadent grass/forb stands to increase their production and vigor. This may relate to anything from elk forage to pheasant nesting cover.
7. Reduce cattail overstory to increase surface acres of water for waterfowl.
8. Rejuvenate decadent willow stands.

One factor relative to prescribed burning which deserves mention is that the area which is burned should be rested from grazing for at least two growing seasons after the burn to achieve maximum benefits. This, of course, depends upon the actual objectives but, from an ecological perspective alone, it is desirable. Failure to follow these guidelines will result in decreased benefits by reducing the diversity of the vegetation which was improved.

Additionally burning removes the above-ground leaves and stems, leaving vegetation very susceptible to further damage. Energy reserves stored in the roots are required for the regrowth of these above-ground parts, resulting in a decline in these root reserves. Until the leaves and stems are replaced, root reserves will be diminished. The first year after burning, above-ground biomass is replaced and as this replacement gradually occurs, the below-ground root reserves are built back up. Generally speaking, in most habitats, vegetative

production is somewhat reduced the first year following prescribed burning and increased the second year.

Wildfire

While wildfires cannot actually be considered a usable habitat modification technique, they often do change habitat. Mule deer, elk and many other wildlife species depend, to some degree, on early vegetative successional stages. A good example of an important seral stage or early successional stage is aspen. In most cases, aspen is replaced by either sagebrush or conifers over time. Historically, fires periodically burned through aspen communities, perpetuating them.

Fire suppression efforts have greatly reduced the number of wildfires, and fire-dependent communities such as aspen have disappeared from many areas. Thus, suppression efforts have served to reduce the amount and diversity of habitat available to wildlife species. The lack of conifer burns adjacent to rocky cliff terrain is another example. Suppression efforts have served to increase conifer cover in most forests, decreasing the unforested habitat preferred by bighorn sheep. Photo documentation in areas such as the Bridger-Teton National Forest and the Black Hills show the effects of long-term fire suppression. One of these reports, prepared by George Gruell of the B-T Forest, stated:

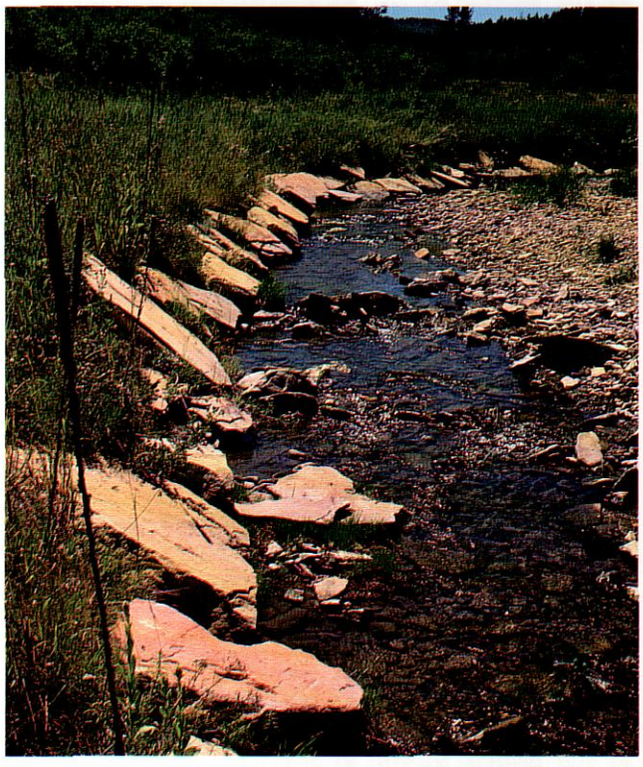
"...it is evident that wildlife habitat preferences vary widely. Despite the variability in preferences, many animals are adapted to early successional postfire stages where food and cover are more plentiful. It is clear that wildlife in Jackson Hole, as elsewhere, evolved in an environment that was subject to continuous change. Changes were largely brought about by recurrent wildfires. Because fire is a natural phenomenon that initiates many beneficial processes and because it should not be eliminated from the system, fire must be integrated along with timber management into long-term land management plans. There is no infinite stability, only dynamic change. Wildlife habitat management, whether it is for big game, small game, or nongame, must become vegetation management in order to be successful over the long run."

This sums up the role which wildfires have played in the past relative to habitat modification. Today, wildfire may only have limited application, mostly due to their threat to public safety and facilities. There may, however, be some areas in which wildfires are allowed to play their historic role such as wilderness areas or national parks. From a wildlife habitat perspective, this could be advantageous in many cases, and suppression activities should be evaluated from this as well as traditional perspectives.

Grazing

Grazing definitely serves as a habitat modification technique and could possibly serve as a habitat improvement tool. Two applications of grazing as a habitat improvement tool have been discussed or researched: increasing the digestibility and nutrient content of elk winter forage through summer cattle grazing and shrub control or the turnover of shrub communities through domestic sheep grazing. Other potential uses have also been or are being explored and have merit. The major problems with using cattle or sheep as a habitat improvement tool include the finite control of animal distribution which is necessary, the effects on nontarget vegetation and the timing of use and fitting this in with traditional grazing schemes. Many wildlife managers have concluded that little can be done relative to habitat improvements through the use of domestic grazers. In the Rutherford and Snyder publication, *Guidelines for Habitat Modification to Benefit Wildlife*, they conclude:

"Livestock grazing has only limited application as a habitat modification tool for wildlife enhancement, and usually is considered to do more harm than good. Grazing is often in direct conflict with production of forage for big game and production with tall, vigorous nesting vegetation for waterfowl and small game; it also destroys food sources and woody cover for the latter."



Heavy rock or gabions combined with vegetation help stabilize stream banks. The result? — clearer, cooler water and better fish cover.

While there may be merit from a wildlife standpoint, usually the use of domestic grazing animals to improve habitat tends to be too complicated and may require extensive fencing to focus the livestock on the target area. Fences are not only expensive, but in most cases, they tend to be detrimental to the very resource whose habitat you are trying to improve. One other complication may be the effects of the grazing practice on other species of wildlife, while you are providing benefits to your target species. If these technical aspects associated with controlling livestock distribution can be accommodated, there is definite potential for the use of livestock for altering the plant community to favor certain species of wildlife.

Herbicidal Methods

Many herbicides exist for controlling various vegetative types. They can be used for habitat improvement in much the same way as previously discussed techniques. Herbicides are used to remove or reduce certain vegetation and subsequently increase more desirable vegetation or provide a more diverse vegetative mixture. Wildlife habitat improvements through the use of herbicides include:

1. Sagebrush or other shrub rejuvenation or manipulation.
2. Reduction of conifers.
3. Control of undesirable vegetation after seeding or planting.

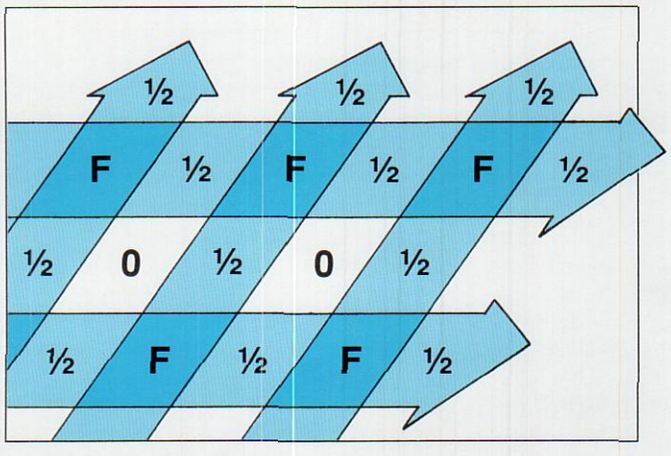
In some instances, herbicides may be a preferred habitat tool due to feasibility and/or costs. One example might be reducing sagebrush densities in areas which cannot be burned or mechanically treated. In many cases, herbicide use may be a cheaper treatment method, especially when compared with mechanical treatment methods. This will depend upon the type of chemical used and the application method.

There are some cases where herbicides might be preferred due to their selectivity for certain vegetation either due to the type of chemical used or to the timing of the application. An example of this might be control of sagebrush in a mixed sagebrush-bitterbrush stand on mule deer range. It is desirable to retain the bitterbrush, and through proper timing of a herbicide application, it is possible to obtain the desired sagebrush control without significantly affecting the bitterbrush. Another example is diagonal strip spraying in a sagebrush-grass community using a half application rate.

This spray pattern results in areas which are unsprayed, areas which receive half the application rate and areas which receive the full application rate. Results include decreased sagebrush densities, better grass and forb production and increased diversity through the mosaic pattern produced by the variable spray intensities. The potential exists for improving habitat through herbicide treatment as long as adequate precautions are taken to prevent detrimental effects of these chemicals. It is extremely important to know the environmental effects of the chemical being applied. Certain chemicals should not be applied near streams or other waterways. With all chemicals, it is wise to incorporate a 200-foot or greater buffer along all streams, creeks, lakes or other water sources. Other undesirable effects may also be encountered; consult herbicide professionals and those in the wildlife field and discuss the effects of herbicides on both plants and animals.

Herbicides are a powerful tool for good or harm. Carefully applied (right) they can result in a dramatic improvement in plant diversity and vigor, which is to say, better wildlife habitat.

Spray patterns (below) can increase the amount of "edge" in a uniform stand of cover. Most herbicide instructions require sprayers to avoid watercourses so that water is not contaminated. These instructions have the force of law and should be followed.



Other Methods

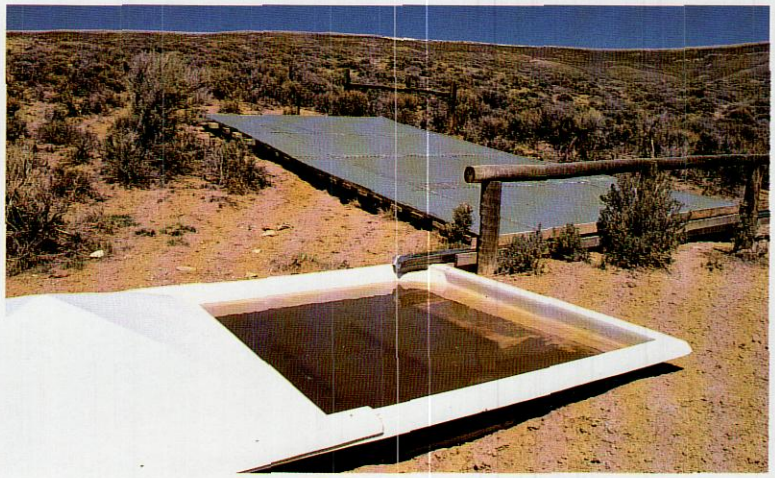
A variety of other methods exist for enhancing different wildlife species' habitats. A few of these may include:

1. *Blasting* — Explosives can be used to blast "potholes" in an area with a high water table to open up surface water for waterfowl use.

Where water tables are high, dredging or "level ditching" can produce wetlands with immediate benefits for water birds and many other wildlife species.

2. *Island development* — Building islands in ponds provides benefits, especially to waterfowl and shorebirds. Many of these birds will use islands as nesting and loafing areas.
3. *Water developments* — A wide variety of techniques have been used to increase water distribution and availability for wildlife. These include guzzlers (water catchment/holding devices), spring and seep developments, water wells equipped with windmills or other pumping systems and artesian wells. In some cases, oil/gas exploration efforts have tapped water sources which were then developed for wildlife. These water developments can be further enhanced for wildlife by excluding livestock from the water source. This involves fencing the area and piping water to a tank for livestock use. Livestock exclusion is particularly important around natural springs and seeps because trampling and resulting soil compaction may eliminate the water sources.
4. *Snow fences* — There are several applications of snow fences as a habitat improvement tool. One of the most significant is the use of "living" snow to prevent snow from accumulating on roads or other areas. These living snow fences provide great benefits to game and nongame birds, small mammals and large mammals such as white-tailed or mule deer. Snow fences increase snow accumulation and can be used to provide additional water for ponds or guzzlers. Additionally, vegetation behind snow fences tends to change after the snow fence is constructed and, in many cases, this vegetation is preferred by wildlife during certain times of the year. A good example of this is late spring antelope use of vegetation behind snow fences along Interstate Highway 80 near Arlington. The reason for the preference appears to be vegetation which is starting to "green up" at a later date (as a result of snow cover) than other vegetation in the vicinity. Finally, snow fences provide additional moisture in the

Water is a critical part of good wildlife habitat, especially in the desert basins of the American West. This device catches rain and snowmelt, then channels it into a small reservoir where it is available to larger wildlife species like deer and elk as well as small animals like sage grouse, mourning doves, and song birds.



form of snow for trees or shrubs planted behind the fences. Snow fences must be carefully placed to avoid covering these other plantings with drifting snow.

5. *Wildlife* — compatible farming methods — For those who are willing to farm with an emphasis on wildlife, a number of techniques may be used including:

- Laying out fields to maximize edge effect and optimize existing permanent cover.
- Using a three-year rotation on dry land farming situations whereby one strip out of three is allowed to grow annual weedswhich serve as cover and food for wildlife.
- Keeping irrigated fields small to incorporate a greater diversity in the number and arrangement of fields.
- Raising crops (where possible) which provide a greater benefit to existing wildlife such as pure stands of grasses or legumes for seed harvest and sale. The standing, unharvested grass can provide winter cover for many birds and some mammals.
- Using shelterbelts, grass barriers and/or permanent grass/legume plantings to provide additional cover adjacent to harvested fields.
- Cutting alfalfa *after* pheasant nesting season or using some type of flushing bar to reduce mortalities to nesting birds.

Other techniques exist which can encourage wildlife use or increase wildlife numbers on farmed grounds. Many of these methods are desirable from a soil conservation standpoint (especially the tree or cover plantings), serving to increase crop production by decreasing soil erosion.

Summary

Listed in this brochure are numerous proven techniques available for habitat improvement. Many other techniques are also available for improvement of numerous species' habitats, from large ungulates like the moose to small backyard improvements designed for small birds. When considering any type of habitat improvement, keep in mind the specific goals and objectives of the improvement such as:

- What species of wildlife are the improvements designed for?
- How large is the area to be improved?
- What are the costs associated with the improvements?
- Are other sources of funding available?
- Will the planned improvements negatively affect other species?

Working with wildlife can be a rewarding experience and an enjoyable hobby. Habitat improvements benefitting wildlife can be as expensive or time-consuming as you let them be. Visit with others who have worked with some of these techniques or seek advice on a particular improvement technique of interest. Technical advice and expertise (and if certain requirements are met, funding) are available from the Wyoming Game and Fish Department's Habitat Extension Program. For technical information and ideas for improving wildlife habitat, contact your local Wyoming Game and Fish Department office and ask for assistance. You may also wish to ask about the Habitat Extension Program.

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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.