Improving Streamside Wildlife Habitats

Habitat Extension Bulletin No. 9

Streamside areas are the single most productive wildlife habitat type in North America, supporting a greater variety of animals than any other habitat. Many wildlife species are totally dependent on these habitats for all or part of their life cycle.

Research has shown that 60 to 80 percent of all bird species nest along streams or lakes. Many birds, including most upland game birds, use woody cover along streams for thermal cover in winter. Amphibians require water for reproduction, and adults of several species rely on adjacent moist habitats. Weasels, mink and other predators hunt a wide variety of small mammals that also rely on food and cover found along streams. Many big game species use these areas for the food, water and hiding/thermal cover found there.

Streamside areas are a significant source of livestock forage, but grazing must be carefully planned and monitored to prevent damage to these areas. Usually an adjustment of timing and grazing intensity is all that is needed to maintain a healthy, productive streamside system for all users.

Removal or improper management of streamside vegetation will reduce the area's value for wildlife and livestock. Maintaining the vegetation, especially the trees and shrubs, will preserve habitat values important to all users. In some cases, the values of a streamside area can be enhanced by plantings or by installing specially designed structures.

Streamside timber on the plains has led Midwestern species like the fox squirrel (above) and white-tailed deer into many parts of the West.

Streamside Vegetation

The vegetation found along streams and lake shores is often quite different from that occurring in upland areas. It is more lush, more abundant and stays green for a longer portion of the year. These plants require more water than is provided by normal precipitation. This green band of vegetation is called the *riparian area* or *riparian zone*.

Riparian vegetation can help stabilize stream banks, filter sediment from surface runoff and provide wildlife habitat, livestock forage and scenic value. Well-developed vegetation also allows bank soils to absorb extra water during spring runoff, releasing it later during drier months, thus improving late-summer stream flows.

In many parts of the arid West, trees and shrubs are found only in riparian areas. Woody plants are very important as winter cover for many wildlife species, including upland game birds such as pheasants and turkeys. Often this winter cover is the greatest single factor limiting game bird populations. Woody vegetation also provides hiding cover and browse for many other species of birds and mammals, both game and nongame.

Dead trees ("snags") are an integral part of streamside habitats and should be left standing whenever possible. Woodpeckers, nuthatches, brown creepers and other birds eat the insects that decompose the wood. These insects usually pose no threat to nearby living trees. Occasionally a disease organism or misuse of pesticides will weaken or kill a stand of trees. If several trees in a small area begin to die, contact your local extension agent immediately.

The cavities excavated by woodpeckers are used by many other species of birds for nest sites. Bluebirds, tree swallows and wood ducks are

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A host of birds nest in or on cottonwoods and other streamside timber species. Most people know that these trees are important habitat for woodpeckers like this hairy woodpecker (below). Fewer people realize that species like the great blue heron (below right) also nest in the tops of cottonwoods.

among the species dependent on cavities. Snags are also used by hawks as hunting perches. Raccoons and squirrels use snags for den sites. Nest boxes or bird houses can provide nest sites for cavity nesters where snags are not available, but leaving snags standing is a great way to help all these species. For more information regarding snags and their benefits to wildlife, please see the Wyoming Game and Fish Department habitat extension bulletin number 46, "Snag and Den Tree Habitats for Wildlife."

Downed, dead, woody material found along streams is also valuable as hiding cover for many species of wildlife. Decaying logs, brush piles and layers of downed trees all improve an area's value for wildlife, and should be preserved.

Streamside Plantings

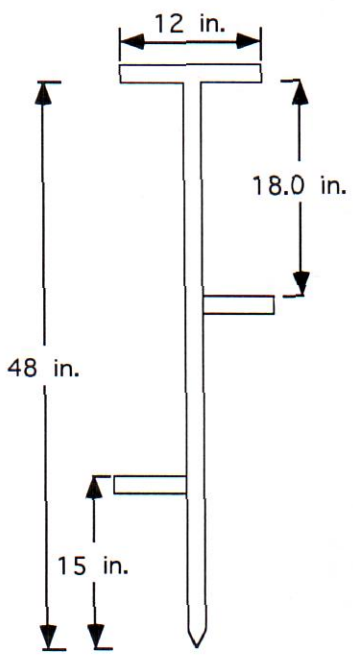
Planting tall grasses, forbs and shrubs can increase food, nesting cover and hiding cover for upland game birds, rabbits, deer and nongame birds, especially if past overgrazing, cultivation or flooding has removed much of the native ground cover. Locally adapted native species should be planted when possible. Check with your county extension agent and/or Wyoming Game and Fish Department personnel for sources of native plant seeds. Some sportsmen's organizations also offer seed mixes for wildlife habitat. For small areas, native seed can be collected by hand from vegetation occurring nearby.

One easy way to establish shrubs and trees is by planting dormant cuttings. This technique works well for willow, chokecherry, cottonwood and other deciduous species that occur naturally along streams. Use a sharp saw to take cuttings from existing trees or shrubs during dormant periods. Timing varies with elevation, exposure

and species, but November through February is usually safe. The cuttings should be one and one-half to six feet long, and should include the shiny, smooth, current-year growth and last year's more weathered-looking wood. The cut end should be one-half to one inch in diameter. The top few inches of young growth should be removed and discarded. Cuttings can be trimmed into shorter lengths, from six inches to two feet long and stored in bundles. Each finished cutting should have at least three nodes (bud sites which will sprout and develop into branches). Take plenty of cuttings, as many will die (10 percent survival is typical). Soil Conservation Service or Extension Service offices may also be able to supply cuttings or bare root stock.

Cuttings should be planted immediately but may be stored for a few months if necessary. Store in a cool place, such as a cellar or an unheated building and keep them moist by placing them upside-down in moist (not saturated) sand, peat moss or sawdust, leaving the cut bases exposed to the air. This procedure promotes root sprouting, yet retards bud development.

Plant cuttings in early spring, before they break dormancy. Soaking the cuttings in a rooting hormone formula (available from garden centers, etc.) for 24 hours prior to planting will improve cutting survival.



A good planting tool can be made from a six-foot section of 3/4-inch smooth metal rod. Cut a 12-inch length and two six-inch lengths from the rod. The shorter pieces can then be welded to the remaining four-foot piece, to form handles and a foot peg, as shown. The end should be pointed to make it easier to drive into the ground.

Cuttings can be planted using a steel bar to make a planting hole. Planting location varies with different species of trees and shrubs. Determine the water requirements of the plants you wish to establish before beginning planting operations. Absorbent granules, available from garden centers, can be placed in the hole to hold moisture around the cutting. Most of the stem should be underground, with only one node above. Close the hole around the cutting to prevent drying.

Another technique used to plant cuttings involves driving them into moist stream bank soil with a deadblow hammer. This rubber mallet is filled with ball bearings which absorb shock and vibrations and can be ordered from any hardware store. The deadblow hammer works especially well with rocky banks or riprap, where driving holes with a planting tool may be difficult.

New plantings should be protected from grazing for one year or more, if possible. Given a chance, livestock often eat these plantings quickly or trample them.

Controlling Stream Bank Erosion

Erosion is a natural process that, over geologic time, has created the canyons, cliffs and benches that many species of wildlife depend upon. Excessive downcutting of a stream, however, can destabilize stream banks, cause a drop in the water table and reduce the site's ability to support riparian vegetation.

Erosion is accelerated when stream water velocity increases, whereas slowing the water encourages sediment deposition. Stream channel modification using bulldozers or other machinery as an erosion-control measure usually results in accelerated damage. Examples of improper methods include channeling or straightening a stream, cutting off a bend in a stream and pushing river cobble up against a bank in an attempt to protect it.

Several techniques have been developed to help repair damaged stream channels. Depending on the circumstances, a site may require armoring, a drop structure or a deflector of some kind. A permit from the U.S. Army Corps of Engineers is required. Correct installation requires an understanding of stream hydraulics. Please seek assistance from conservation or land management agencies before attempting to install any structures in a stream. The Wyoming Game and Fish Department has additional information available

on stabilizing eroding stream banks, and department personnel can offer advice and assistance.

Conclusion

Preventative maintenance is perhaps the best management strategy for streamside habitats. The proper care of these unique and valuable areas will insure a healthy riparian area for wildlife, livestock and human users. A healthy riparian area will result in quality water, improved forage and increased wildlife numbers. Contact your local Wyoming Game and Fish Department district office for more information regarding streamside habitat management and improvement.

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