

Managing Streamside Zones for Wildlife

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Streamside zones, or riparian zones, are strips of mature hardwood or conifer trees that grow on moist sites along permanent or intermittent streams. Streamside zones help protect water quality by filtering soil sediments and pollutants before they enter the streams and help protect stream water from temperature extremes by shading streams. Streamside zones are usually scenic sites and provide aesthetic values in rangeland and in recently harvested areas. These mature stands may be the only older habitat over broad areas. They may be used by wildlife as travel corridors or may serve as genetic corridors, possibly linking potentially isolated small populations of particular species. Streamside zones or riparian areas of mature trees are often critical habitat for wild turkeys and a wide variety of other wildlife species.

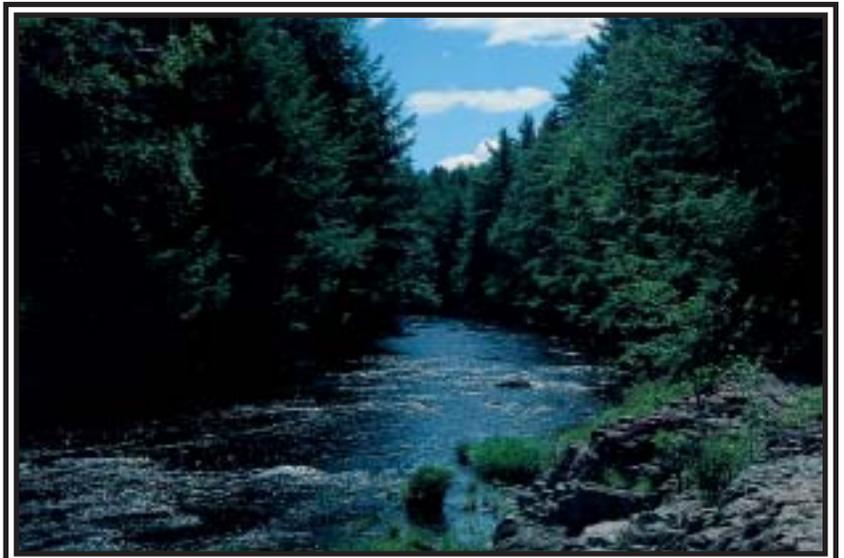
WESTERN RIPARIAN ZONES

In western arid areas, riparian zones are critical moist habitat in a mostly dry, harsh environment. For most species of birds, amphibians, and fish, riparian zones are necessary for their very presence. Wild turkey distribution and reproduction are dependent on the abundant grass,

forbs, and trees often only found in the moist riparian sites. Newly hatched poults depend on insects and other invertebrates to satisfy their protein requirement for early growth. In some arid areas, often the only suitable young poult habitat supplying the necessary invertebrates is the lush grass and forb vegetation of the fertile riparian zones. Also, the mature trees in riparian zones provide mast, which are important foods for turkeys as well as many other species of wildlife, and often are the only suitable roost trees.

There would be no turkeys in much of the dry, western brush country if it weren't for riparian zones. For example, with the Rio Grande turkey in south-central U.S., rivers with associated productive, moist sites; large oak, pecan, and hackberry trees; and grass, support hundreds of wintering turkeys in traditional winter roosts which have been used for decades or longer.

In the midwestern United States in areas dominated by prairies or row crops, riparian zones are essential habitat for wild turkeys and a number of species of other birds and mammals. Some of the highest densities of wild turkeys are now found in forest/agricultural habitat mixtures, such as in northern Missouri and Iowa.



Streamside zones protect the quality and integrity of water courses.

RON BRENNEMAN

NORTHEASTERN SPRING SEEPS

In northeastern hardwood/conifer forests streamside zones are not as important to wild turkeys as other parts of the country. However, during cold winters and long periods of snow covered ground, spring seeps are very important for wild turkeys and other wildlife for winter survival. Spring seeps are areas where water percolates to the surface. Temperatures vary little year-round, so snow and ice do not accumulate in them during the winter. Studies have shown wild turkeys can withstand very cold temperatures if they can find food. Seeps without snow cover supply foods which are accessible to wildlife at a critical time during winter when other foods on upland sites are covered by snow. NWTF Wildlife Bulletin No. 21 provides more detailed information on spring seep management.

SOUTHERN STREAMSIDE ZONES

Information from research on the relationships of wildlife communities and streamside zones in the South illustrate the overall importance of streamside zones in



Streamside zones provide important habitat for wildlife.



A riparian area in central South Dakota.

DONALD M. JONES



There would be no turkeys in much of the dry areas of the west if it weren't for riparian areas.

southern forests. In general, southern forests are very productive for wood fiber and wildlife populations. Many older stands are har-

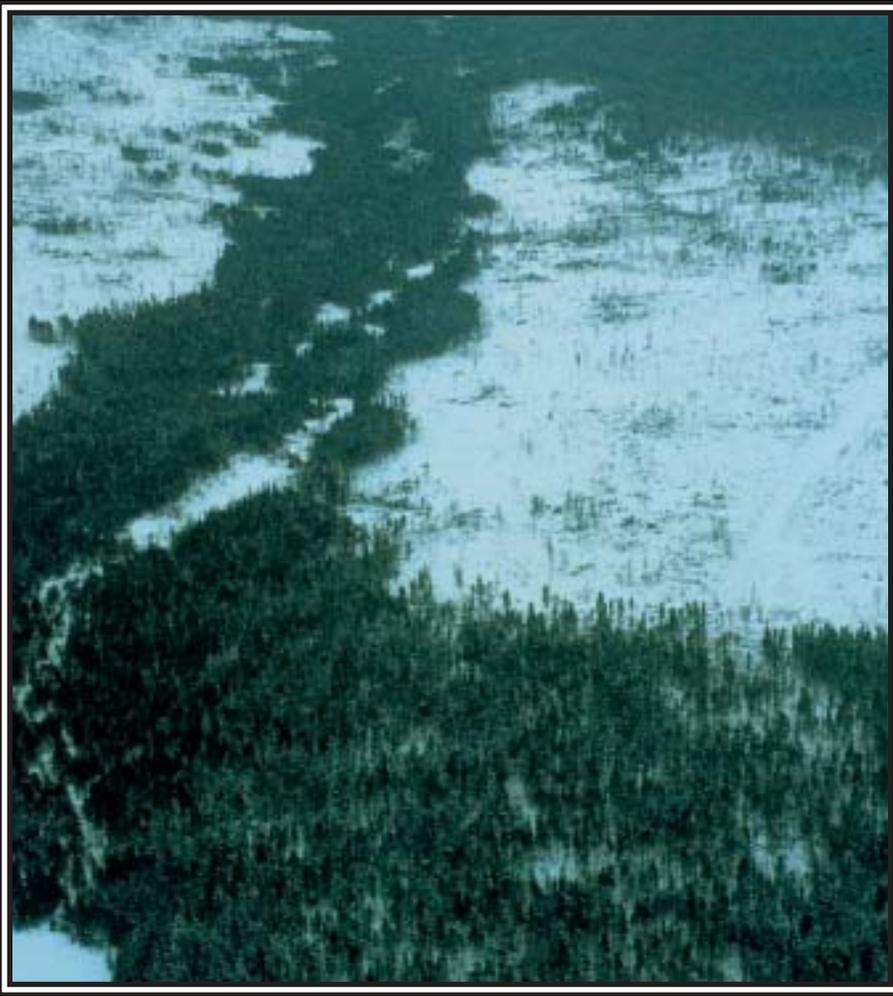
vested and converted to fast-growing, short-rotation stands, often pine plantations. Some species, such as white-tailed deer, cottontail rab-

bits, and yellow-breasted chats, fare well in young, diverse hardwood stands or pine plantations. Species associated with mature forest



RON BRENNEMAN

Spring seeps are sources of food for wild turkeys in colder climates.



Streamside zones in a northern forest.

stands are eliminated and general suitability for wildlife declines at about age 10 in pine plantations when pine canopies close and shade out most non-pine vegetation. Wild turkeys use clearcuts for a couple of

years before they become too dense for use other than for nesting.

When stands are harvested, normally streamside zones of mature hardwood or hardwood/pine are left unharvest-

ed. Streamside zones provide nesting sites, food, and cover and may provide the only mature habitat with mast producing and cavity trees, which may be the essential habitat component in areas dominated by extensive pine plantations or improved pasture. Leaving streamside zones is beneficial for numerous wildlife species, such as wild turkey, deer, gray and fox squirrels, breeding and wintering birds, and reptiles and amphibians. Generally, narrow zones, less than 25 yards total width, have little timber value or benefits for wildlife. Medium zones (30-45 yards wide) are better and wide zones (more than 55 yards wide) are best for southern wildlife species.

WILDLIFE USE OF STREAMSIDE ZONES

Wild Turkey

Wild turkeys benefit tremendously from streamside zones. In the Southeast, streamside zones provide critical mature habitat with mast producing and roost trees. Wild turkeys particularly use very wide zones, especially during fall and winter when oak and other mast is available.

White-tailed deer

White-tailed deer also benefit from streamside zones. The moist sites usually have fertile soils that support a lush growth of browse vegetation, soft and hard mast, and escape cover for deer. Deer use streamside zones after adjacent young stands have developed to the stage where pine crowns dominate and shade out lower browse, forbs, and soft mast. Deer prefer streamside zone habitat, especially during fall and winter when mast is an important food.

Squirrels

Squirrels are very dependent on hard mast, such as acorns and hickory nuts. In areas dominated by young forest stands, hard mast production is minimal. In some areas, streamside zones may be the only suitable mature habitat available to squirrels. Several studies in the



A hardwood zone in a managed pine forest.



South have documented higher squirrel use of streamside zones than adjacent mature upland stands and squirrel preference of wider zones. In east Texas, gray and fox squirrels, signs of squirrels feeding, and squirrel leaf nests were abundant in zones wider than 55 yards, but were virtually absent from narrower zones. Large American beech trees with good fall mast production and hollows for nesting, large loblolly pines with winter cover and late summer seed production, and vines, such as grape, used for travel, cover, and fruit production, are important to squirrels.

Reptiles and Amphibians, Birds, and Small Mammals

Generally, streamside zones also are important habitat for many species of nongame wildlife. Far fewer reptiles and amphibians are found in narrow, bushy streamside zones than in medium or wide zones with closed canopies, sparse ground vegetation, and leaf litter. There are more than 3 times the





total number detected in medium zones (30-45 yards wide) and almost 4 times the total number found in wide zones (more than 55 yards wide) as in narrow zones (less than 25 yards wide).

Substantial streamside zones

also are positive for bird communities, particularly for species associated with mature habitat, including neotropical migratory birds (species that breed in North America and winter in the tropics). Overall bird abundance is positively related to

streamside zone width. Wide zones accommodate species associated with mature forest stands, such as acadian flycatchers and hooded warblers in shaded understories, and summer tanagers and yellow-throated vireos in mature tree canopies.

Although wider zones generally are positively associated with wildlife communities and especially favorable for species associated with mature habitat, species associated with early successional stands, such as those found in regeneration cuts, are not abundant in the mature streamside zones. Some bird species associated with early successional stands, such as yellow-breasted chats and indigo buntings, may decline in abundance with streamside zone width. Also, small mammals, such as cotton mice and fulvous harvest mice, are more abundant in narrow zones with logging slash debris which provided cover and abundant grass, forbs, and fruit foods utilized by small mammals. But these early succession species favored in narrow zones are easily accommodated in adjacent upland young stands.

MANAGEMENT

The first step is to keep riparian and streamside zones in mature trees and protect them from degradation. The best riparian sites may be threatened by conversion to reservoirs, overgrazing by livestock, and many other human uses, including recreation and home sites.

When harvesting adjacent stands, streamside zone boundaries should be established before harvesting begins. Zones should be protected from fire when adjacent upland stands are prescribed burned. Fire breaks should be established if the streamside zone sites or conditions are not moist enough to preclude fire. Some mature trees could be harvested in zones if that is necessary to justify their retention when income is a major consideration. However, harvesting should not be conducted immediately adjacent to the streams in order to protect water quality, and harvesting





should not be severe enough to detract from the mature characteristics of the stands. Tree species valuable for wildlife, such as a variety of mast producing red and white oaks, or individual trees of particular wildlife value, such as cavity trees, should be spared from harvest. Also, understory species valuable for wildlife, like fruit producing haws or dogwoods, should be favored.

You can learn more about managing your land for wild turkeys in the book, *The Wild Turkey: Biology and Management* by Dr. James Dickson. To order a copy today, [click here](#).



Managed streamside zones are valuable wildlife habitat.