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Division of Resource Conservation & Forestry

Windbreak Benefits for Wildlife

- Place for breeding, nesting, and brood rearing
- Food and foraging sites
- Shelter from predation
- Shelter from weather
- Travel lanes

Design guidelines

- Choose trees and shrubs that have wildlife benefits, but are adapted to the local climate.
- Include a variety of trees and shrubs in the windbreak planting.
- Include both deciduous and evergreen species.
- Where appropriate, select a site that connects to a larger habitat such as river corridors, woodlots, wetlands, woody draws, or similar areas.
- Consider planting wildlife food plots or leaving grain fields unplowed.
- Consider planting or leaving herbaceous vegetation such as a mixture of grasses and legumes, grain, or stubble as a border 20-50 feet wide, along the edge of the windbreak, but avoid competition with a new planting by keeping a clear area next to the trees.
- Consider adding a row of shrubs to the windward side to trap snow before it gets to the main windbreak and to improve wind protection near the ground.

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Windbreaks for Wildlife



South Dakota
Department of Agriculture
and Natural Resources
Division of Resource Conservation
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Windbreaks can support wildlife that add beauty and pleasure to our lives. They also sustain birds that eat insect pests, improve hunting opportunities, and provide a focal point for family outdoor activities.

Whether your main goal is to shelter crops, livestock, roads or a home or farmstead, you can add wildlife benefits to windbreak plantings.

Insect-eaters: Many birds and predatory insects that live in windbreaks consume pest insects in the windbreak and adjacent crop fields. One report estimated that birds eat about 260 pounds of insects per half-mile of windbreak each year. These insect-eaters are a natural biological control that may reduce crop loss and reliance on pesticides.

Windbreaks as an investment in recreation: Studies in the Great Plains show that hunting pheasants is usually more successful in areas with woody windbreak plantings. Windbreaks also benefit other game animals including cottontails, mourning doves, squirrels, and whitetail deer. The demand for outdoor recreational opportunities such as hunting, wildlife observation, photography, and camping is likely to continue to increase. Windbreaks can enhance these outdoor opportunities.

How Windbreaks Benefit Wildlife

A place to nest: Windbreaks provide nesting habitat for a wide variety of birds and other wildlife species. At least 57 species of birds have been recorded using windbreaks in the United States during the breeding season. Other species, including squirrels and cottontail rabbits, nest in windbreaks and whitetail deer with fawns use them for cover.

Food and foraging sites: Windbreaks provide food for wildlife as well as protective cover when foraging in adjacent areas. Potential foods from windbreaks include fruits, nuts, acorns, seeds,

foliage, and insects or other invertebrates. Availability of these foods varies seasonally and depends on what is planted or growing within the windbreak. Trees and shrubs produce fruits and some hold them into winter, a time when food is often critical for wildlife survival but generally less available.

Food availability near shelterbelts is also important for many species. Pheasants generally do not use windbreaks, especially in winter, unless there is a nearby food source. Pheasants, mourning doves and others use nearby croplands, such as cornfields, that have waste grains, insects, and interspersed weed seeds.

Shelter from predation – escape cover: Windbreaks provide escape cover and refuge for many wildlife species. In general, wider windbreaks with a good vegetation layer near the ground offer better escape cover than narrow and more open windbreaks. When planning wildlife escape cover, consider the surrounding land use. Be aware that in areas with no trees or other perches, tall deciduous trees may attract avian predators. In most situations hawks and owls are welcome because they eat pest rodents and inspire joy and awe in many who watch them.

Shelter from weather: Shelter from the wind is a critical aspect of wildlife survival in winter. An animal maintains warmth by avoiding exposure to the wind and by fluffing feathers or fur coats. Food is vital because it is the basic source of all body heat.

Windbreaks can provide both shelter and food. Shrubs and ground cover on the lee side allow animals to perch or rest out of the wind and with many windbreaks, the lee side will have exposure to the sun.

Travel Lanes: Wildlife needs to move about to find food and other resources. The long, linear nature of windbreaks provides safe routes from one habitat to another. Species such as pheasant, songbirds, rabbits, squirrels and deer may use windbreaks as travel lanes between feeding sites, as protective cover at feeding sites, and as routes for safe dispersal.

What to plant: When choosing what to plant, think

about what factors make a windbreak attractive to wildlife.

For the best wildlife benefits, a windbreak should have a developed tree canopy, and an understory that includes shrubs and herbaceous plants that provide reliable food and cover. Grasses, especially sod-forming ones, should not be planted as they compete with trees. Planting milo or similar cover between rows, 3-4 feet from trees, provides wildlife benefits and protection for soil and young trees.

Planting a variety of deciduous tree and shrub species provides habitat structure with a large selection of vertical and horizontal nesting and foraging sites. Conifers provide protected sites for early spring nesters, shelter for migrating songbirds, and winter roosting and loafing sites for pheasants.

Windbreaks are planted to protect farmsteads, livestock, roads, or crops. The additional goal of providing wildlife benefits can be added without compromising these primary purposes.

How big should a windbreak be? Larger windbreaks benefit more wildlife than smaller ones, and some birds need a certain minimum size before they will use it.

Where winter shelter is a specific goal, the size needed, especially width will be greater than for other purposes. For example, windbreaks for pheasants may need to be 20 rows of woody plants wide with adequate ground cover.

Snags: A snag is a dead tree that has possibly lost limbs or tops but is still standing. Snags are great for wildlife. If they do not pose a safety hazard and there is no other reason to remove them, consider saving them for wildlife: owls, woodpeckers, chickadees, and squirrels use them as nesting and foraging sites.