

Blue-winged teal

General information

The blue-winged teal is a relatively small dabbling duck associated with ephemeral wetlands, inland marshes, lakes and ponds. They inhabit shorelines more than open water and primarily nest within a few hundred feet of wetlands in the prairie pothole ecoregion of the northern Great Plains. Nests are found primarily in dense grassland cover. Hayfields sometimes will be used for nesting if adequate grass stubble remains. Blue-winged teal are surface feeders and prefer to feed on mud flats or in shallow water where floating and shallowly submerged vegetation is available, along with abundant small aquatic animal life. Shallow wetlands with both emergent vegetation and open water are required for brooding cover. During spring and fall migration, shallow wetlands and flooded fields are used for loafing and feeding. Blue-winged teal begin fall migration before any other waterfowl. They winter along the Gulf Coast in the Deep South and in Central and South America.

Habitat requirements

Diet: aquatic vegetation, seeds and aquatic insects; feeding primarily confined to wetlands

Water: relatively shallow wetlands required for brood rearing, feeding, and loafing

Cover: dense native grass cover used for nesting; brooding cover consists of a mix of open water and emergent vegetation

Wildlife management practices

Control Nonnative Invasive Vegetation: when nonnative invasive vegetation begins to compete with native vegetation and degrade habitat quality

Leave Crop Unharvested: to provide additional food if the grain can be shallowly flooded

Livestock Management: livestock should be excluded from nesting areas and from wetlands managed for waterfowl

Plant Food Plots: can provide additional food resources during migration and winter if the area is shallowly flooded when the ducks arrive

Plant Native Grasses and Forbs: for nesting cover where suitable cover is lacking

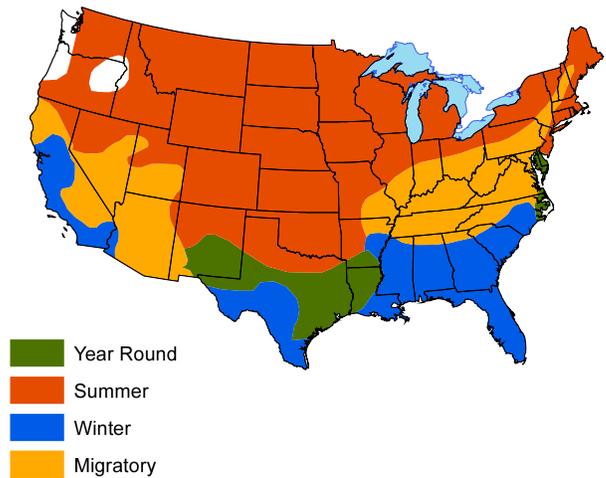
Repair Spillway/Levee: if not functioning properly

Set-back Succession: *Prescribed Fire, Disking, and Herbicide Applications* can be used to maintain wetlands and associated upland nesting cover in the desired structure and composition

Soil Conservation Agriculture: delaying cropland tillage, especially wheat, in spring may allow nesting in standing stubble



Dave Menke



Water Developments for Wildlife: flooded fields provide important areas for teal during migration; constructing small dikes for temporary flooding provides shallow sheet-water teal prefer for feeding and loafing; water control structures allow managers to manipulate water levels as needed to manage vegetation and food availability

Wildlife or Fish Survey: flush counts can provide estimates of nesting teal

Brewer's sparrow

General information

Brewer's sparrows are found in the Great Basin south to southern California and New Mexico and in the northern Rocky Mountains of the Yukon and British Columbia. Their habitat contains sagebrush in the Great Basin and alpine meadows in the Rocky Mountains. They are associated with relatively large areas of shrubland; shrub-dominated areas less than one-half acre are not usually used.

Habitat requirements

Diet: a variety of insects and spiders from leaves and branches of shrubs; seeds of forbs and grasses

Water: necessary water is obtained from diet, but will use other water sources when available

Cover: dense sagebrush 20 inches to 30 inches tall for nesting and escape; amount and height of shrub cover is important

Wildlife management practices

Control Nonnative Invasive Vegetation: when nonnative invasive vegetation begins to compete with native vegetation and degrade habitat quality

Livestock Management: grazing regimes should promote shrub growth

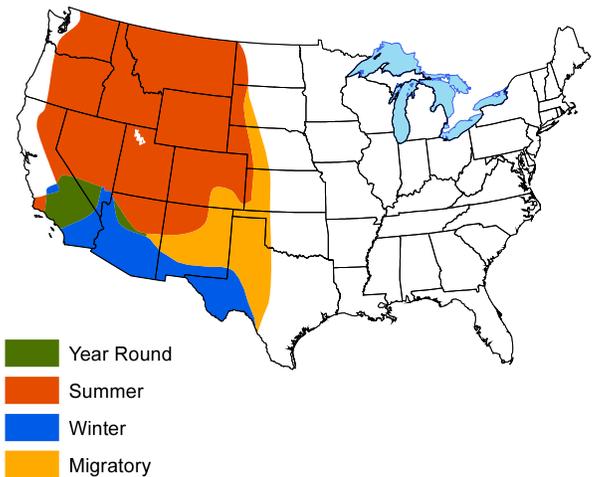
Plant Shrubs: in large open areas where shrub cover is limiting

Set-back Succession: *Herbicide Applications* may be used to adjust species composition of the plant community

Wildlife or Fish Survey: point counts and autonomous recording units (ARUs) may be used to detect species occurrence and estimate population trends



Dave Menke



Broad-winged hawk

General information

Broad-winged hawks use mixed upland hardwood forest and woodlands (oaks, hickories, maples, beech) and mixed conifer-hardwoods. Broad-winged hawks are normally solitary and inconspicuous. They hunt within the forest near small openings in the canopy.

Habitat requirements

Diet: rodents and other small mammals (such as mice, chipmunks, squirrels, shrews, moles) but also snakes, lizards, caterpillars, grasshoppers, beetles, crickets, crawdads, and some small birds

Water: obtain necessary water from diet

Cover: nest among tall trees in the woods with openings and water nearby; will sometimes nest in old crow, hawk, or squirrel nests; they hunt throughout the forest, especially where small canopy gaps occur

Wildlife management practices

Control Nonnative Invasive Vegetation: when nonnative invasive species begin to compete with native species and degrade habitat for prey and broad-winged hawks

Forest Management: *Group Selection* harvest and *Forest Stand Improvement* should encourage understory development and enhance habitat for a variety of prey species

Livestock Management: should exclude cattle from forested areas to retain an understory that provides cover for a variety of small prey mammals

Plant Shrubs: in areas where tree cover is lacking, such as large open fields

Plant Trees: in relatively large open areas where additional forest cover is needed

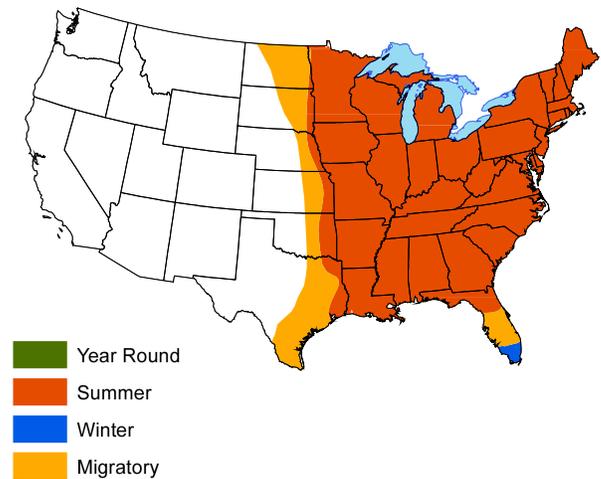
Set-back Succession: *Prescribed Fire* may be used to maintain diverse understory structure in forests with broken canopies that allow sufficient sunlight

Water Developments for Wildlife: will enhance habitat for a variety of prey species

Wildlife or Fish Survey: observation surveys and autonomous recording units (ARUs) may be used to estimate population trends



Greg Lavaty



Brown thrasher

General information

Brown thrashers occur in the eastern two-thirds of the U.S. They are normally found in shrub and bramble thickets, hedgerows, shelterbelts, young forests, forest edges, and brushy riparian areas. Brown thrashers forage primarily on the ground, using their beaks to turn over leaves and debris looking for food. More food is available when there is substantial ground litter (leaves and debris). Nests are usually found in bushes or small trees 1 to 10 feet aboveground.



Dan Sudia

Habitat requirements

Diet: invertebrates and plant seeds are main items in diet, but soft and hard mast are also eaten

Water: water requirements are not known

Cover: dense shrubs and brambles interspersed with some trees are used for nesting and escape cover; will use areas that have only shrubs; need a minimum of 2.5 acres of habitat to support a breeding population

Wildlife management practices

Control Nonnative Invasive Species: when nonnative invasive species begin to compete with native species and degrade habitat for brown thrashers

Edge Feathering: will enhance habitat around the edge of fields

Field Borders: of brambles and shrubs will provide additional nesting and foraging cover

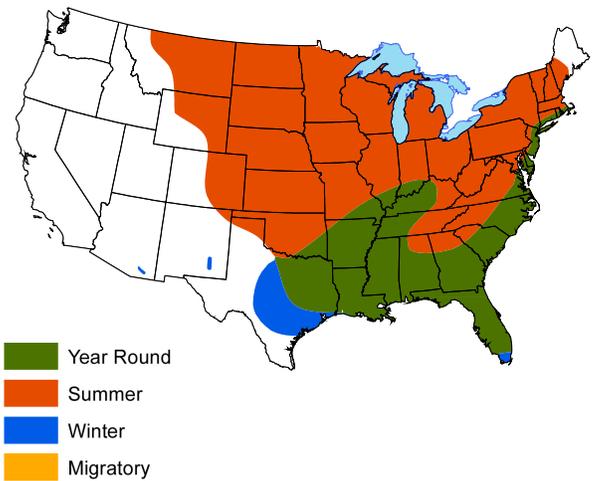
Forest Management: *Forest Regeneration*, especially *Clearcut*, *Shelterwood*, and *Seedtree* will improve vegetation structure for nesting and foraging; *Forest Stand Improvement* can improve habitat by stimulating understory development

Livestock Management: should exclude livestock from riparian areas, shrublands, and forests to allow shrubs and trees to regenerate

Plant Shrubs: in open areas of at least 2.5 acres to create additional cover for nesting/foraging

Set-back Succession: when managing tree lines, small patches of trees, other areas not considered forest, or forested areas where it is desirable to set-back succession without regenerating a forest, *Prescribed Fire*, *Chaining*, and *Herbicide Applications* can be used to maintain and rejuvenate shrub cover when habitat quality begins to decline; *Chainsawing* and *Dozer-clearing* can be used to clear woods and create additional brushy cover

Wildlife or Fish Survey: point counts and autonomous recording units (ARUs) may be used to detect species occurrence and survey populations



California quail

General information

California quail are found most commonly in chaparral, sagebrush, and oak savannas and woodlands. They require shrubby cover for roosting, escape cover, loafing, and foraging. Ideal California quail habitat is a mixture of shrub cover well interspersed with annual and perennial forbs and grasses. Adult California quail eat mostly seeds, leaves, and flowers from grasses, shrubs, and trees. The diet of juveniles, however, consists largely of invertebrates.

Habitat requirements

Diet: about 70 percent of diet consists of seeds and green foliage from forbs and grasses, particularly annual grasses; diet supplemented with soft mast and seeds from a variety of shrubs; juveniles less than 3 weeks old eat insects; by 12 weeks of age, diet is same as adults

Water: obtain necessary water through diet except during periods of heat and drought when freestanding water is required for drinking

Cover: require cover near feeding areas or habitat quality declines dramatically; shrubby cover used for roosting, escape cover, and loafing; nest on the ground in grasses and forbs

Wildlife management practices

Control Nonnative Invasive Vegetation: when nonnative invasive vegetation begins to compete with native vegetation and reduce habitat quality; nonnative sod grasses are particularly problematic

Edge Feathering: will provide escape cover and increased foods

Field Borders: to increase usable space around crop fields

Leave Crop Unharvested: to provide additional food through fall and winter, especially grain crops

Livestock Management: proper grazing can be used to maintain adequate groundcover for nesting and forage, and prevent livestock from destroying cover near water sources

Plant Food Plots: if food is a limiting factor, grain will be eaten by quail when available

Plant Native Grasses and Forbs: to improve nesting cover and food availability in areas where groundcover is lacking or needs to be improved

Plant Shrubs: in relatively large open areas where shrub cover is lacking

Plant Trees: where woody cover is lacking, species such as oaks may be planted



Gary Kramer



Set-back Succession: Prescribed Fire and Disking are recommended to maintain herbaceous cover and enhance food plants; Prescribed Fire, Chaining, Drum-chopping, and Herbicide Applications can maintain and rejuvenate shrubby areas

Soil Conservation Agriculture: eliminate fall tillage to provide waste grain

Water Developments for Wildlife: guzzlers, catchment ponds, windmills, and spring developments can be beneficial to California quail where water may be limiting

Decrease Harvest: may be necessary when surveys show a decline in the local population and current data suggest mortality from hunting harvest is additive or limiting population growth

Wildlife or Fish Survey: call counts and flush counts may be used to estimate population density

California thrasher

General information

California thrashers are found in shrubby chaparral cover in the Mediterranean ecoregion. The shrub cover they use requires fire for maintenance, but thrashers are not typically found in recently burned areas until desirable shrub structure develops following fire.

Habitat requirements

Diet: spiders, beetles, Jerusalem crickets, and other insects may constitute more than 90 percent of diet during breeding season; during the rest of the year, a variety of seeds and hard and soft mast from shrubs are eaten

Water: exact water requirements are unknown, but because California thrashers occur throughout arid ecoregions, it is unlikely they require freestanding water; they will, however, drink freestanding water when available

Cover: dense shrubby cover is required for nesting

Wildlife management practices

Control Nonnative Invasive Vegetation: when nonnative invasive vegetation begins to compete with native vegetation and habitat quality begins to decline

Forest Management: *Forest Regeneration*, particularly *Clearcut*, *Shelterwood*, and *Seed-Tree*, provides dense shrub cover for nesting and foraging

Livestock Management: should prevent livestock from damaging or limiting shrub cover

Plant Shrubs: in relatively large open areas where shrub cover is lacking

Set-back Succession: *Prescribed Fire*, *Drum-chopping*, and *Chaining* can maintain and rejuvenate shrub cover

Wildlife or Fish Survey: point counts and autonomous recording units (ARUs) may be used to detect species occurrence and estimate population trends



Glen Tepke



Canada goose

General information

The breeding range of the Canada goose extends across the northern half of the U.S. across Canada and Alaska. Although an increasing number of Canada geese winter in Canada, the majority fly south to southern areas of the U.S. and Mexico. Many southern areas of the U.S. have year-round resident populations of Canada geese, which is not reflected on the map below. Canada geese nest and rear young in wetlands with relatively sparse to dense emergent aquatic vegetation. Riparian areas and wetlands containing 20 percent tall emergent aquatic vegetation and 80 percent open water are usually preferred areas for Canada geese.

Habitat requirements

Diet: variety of forbs and grasses, grains, and some aquatic insects

Water: relatively open water wetlands, ponds, and lakes are used for brood rearing, feeding, and loafing

Cover: nest in a variety of places, such as mats of bulrushes, tops of muskrat houses, and most of all, in relatively thick cover on islands, usually within 200 feet of the water's edge

Wildlife management practices

Control Nonnative Invasive Vegetation: applies to both uplands and wetlands; nonnative invasive vegetation can degrade nesting cover in uplands and make wetlands unattractive to Canada geese

Do Not Feed Wildlife: supplemental feeding bolsters populations of non-migratory Canada geese, which cause problems around public spaces that include wetlands. Supplemental feeding may have disease implications for migratory geese.

Leave Crop Unharvested: to provide additional food during winter

Livestock Management: proper grazing can maintain lush vegetation for foraging Canada geese; restricting livestock grazing from areas where geese may nest can increase nesting success

Plant Food Plots: both forage (green growing wheat) and grain (corn) food plots can provide additional food where food is limited

Plant Native Grasses and Forbs: to provide nesting cover where limiting

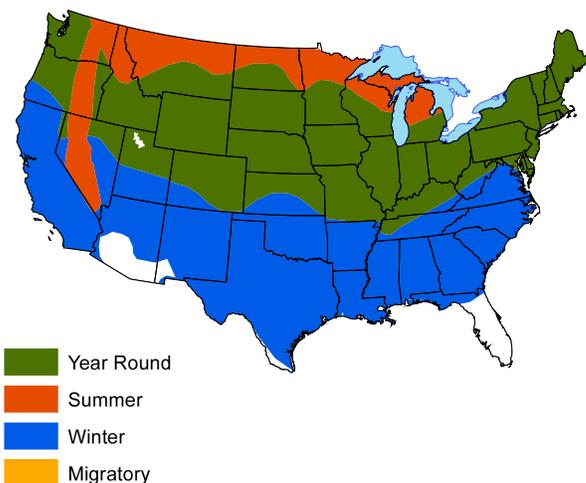
Repair Spillway/Levee: if not functioning properly

Set-back Succession: *Prescribed Fire* and *Herbicide*

Applications set back succession in cattail-choked wetlands and stimulate lush vegetation in uplands where



Ryan Hagerly



geese may feed; *Chainsawing* and *Dozer-clearing* can create more early succession for nesting cover near wetlands

Soil Conservation Agriculture: fall tillage in grain crops can be delayed until spring to provide supplemental food source

Water Developments for Wildlife: can be used to temporarily flood fields for feeding and raising broods; water control structures allow water manipulation to maintain 80 percent open water and 20 percent emergent vegetation

Wildlife Damage Management: may be needed where Canada geese damage lawns, golf courses, and crop fields, and other areas in cities and suburban areas

Wildlife or Fish Survey: broods counts and visual surveys can provide estimates of goose abundance