

# Native Plantings for Quail

## Virginia Grassland Bird Initiative

Illustrations  
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### **Building Back Quail Habitat: All Hands on Deck**

Northern Bobwhite (*Colinus virginianus*) quail require a mosaic, or "quilt", of habitats to satisfy their year-round needs, including scrubby forest edges, shrubs, riparian buffers, and fields of forbs and native warm season grasses. This mosaic will support a quail's need for both a diverse plant community and a diverse habitat structure. Quail populations are maximized where these types of habitats are contiguous across thousands of acres, so it is therefore critical to work with adjacent landowners to develop larger, connected tracts of suitable habitat.

Keep in mind that current quail populations are small and fragmented. It may take time for them to re-establish in areas where they currently are not found but habitat restoration has occurred. In the meantime, rest assured that quail habitat is benefitting a myriad of other bird and wildlife species, which is a big conservation success.

### **Diverse Needs Throughout the Year**

**Nesting:** Quail are considered "edge" species, meaning they nest in areas where forest and field habitats intersect. These points of intersection between habitats are incredibly important, and often misunderstood. "Edges" provide the best habitat when they are allowed to grow into a shrubby layer rather than creating a hard cut-off line between forested and field environments. Ideal nesting "edge" habitat usually contains several different species of native warm season grasses, woody shrubs, and forbs.

**Brood Rearing:** Habitat containing a high percentage of native forbs, and especially legumes, are essential for brood rearing and will attract insects that are vital for quail chicks. These habitats are known as "bugging" habitats specifically for their importance in attracting insects for chicks. Without this habitat, chicks will not be able to meet their extensive protein requirements. In fact, a quail chick has a diet composed of up to 80% insects, and sometimes even more! As they mature, chicks will start to eat more legumes and other seeds.

**Overwintering:** The best overwintering habitat for quail requires both cover and high-energy food. Dormant native warm season grasses offer cover within their thick, still-standing stems, and their calorie rich seeds help sustain quail through the winter. Additionally, the shrubby thicket that quail will nest in also provides ideal overwintering habitat. These thickets provide escape cover in the winter and help to insulate an entire covey.

#### **Nesting Habitat**



Quail are a ground-nesting species that can have 1-3 clutches per year, with 7-28 eggs per clutch.

- Secure cover from predators
- Free from disturbances
- Diverse plant community
- Diverse plant structure
- "Edge" habitat

#### **Brood Rearing Habitat**



Young chicks are almost entirely dependent on insects as food for the first 6-8 weeks of their lives.

- Secure cover from predators
- Bare ground for movement
- Diverse plant structure
- Diverse plant community
- High percentage of forbs

#### **Overwintering Habitat**



Quail forage and roost in coveys. At night, they circle up, with tails pointed inwards, to conserve heat and stay on the alert.

- Secure cover from predators
- Proximity to food source
- Diverse plant structure
- Insulating vegetation
- Free from disturbances





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The following species lists are compilations of suggestions from different state agencies, non profits, and conservation practitioners working to build back quail habitat. All species listed are native to Virginia, and are either food-producing and/or cover-providing plants for Northern Bobwhite quail.

Before choosing your plants, ensure that the species are native to your specific ecoregion and site characteristics. Not all of these species will be suitable for all sites, so we highly encourage landowners to reach out for technical assistance before making a final decision.  
\*\*Please note that some of these plants can be aggressive growers, so plant with caution.\*\*

For information about how to utilize these native plants on your landscape, refer to our resource “Best Management Practices for Quail.”

### Grasses

- Native warm season grasses (NWSGs) that grow in bunches allow quail to move along the ground.
- NWSGs are important to quail year-round for nesting, brooding, and winter foraging.
- NWSGs are acclimated to Virginia—they have deep roots that are superior for carbon sequestration, tap into water during droughts, and improve soil health.
- NWSGs can be a great option for later maturing hay that allows grassland birds sufficient time to nest, and as forage for livestock during the summer when cool season grasses go dormant.

Consider the following grasses for NWSG plantings:

**Big Bluestem	<i>Andropogon gerardii</i>
Eastern Gamagrass	<i>Tripsacum dactyloides</i>
**Indiangrass / Yellow Prairie Grass	<i>Sorghastrum nutans</i>
Knotroot Foxtail	<i>Setaria parviflora</i>
Little Bluestem	<i>Schizachyrium scoparium</i>
Panic grasses	<i>Coleataenia spp.</i>
**Switchgrass	<i>Panicum virgatum</i>
Paspalums <small>*native species vary*</small>	<i>Paspalum spp.</i>
Side-oats Grama	<i>Bouteloua curtipendula</i>
Wildrye	<i>Elymus spp.</i>

### Woody Plants & Shrubs

- Thickets of woody plants and shrubs make excellent living brush piles for many different species.
- Woody thickets are used by quail as cover from predators, for shelter during inclement weather, and even forage.
- Many of our native woody plants and shrubs produce berries, drupes, blooms, and attract insects – all of which quail will eat.

Consider the following native shrubs/woodies for planting:

Beautyberry	<i>Callicarpa americana</i>
Blackberry	<i>Rubus spp.</i>
Buttonbush	<i>Cephalanthus occidentalis</i>
Wild Plum (American & Chickasaw)	<i>Prunus</i> ( <i>americana</i> & <i>angustifolia</i> )
**Sumac	<i>Rhus spp.</i>
Elderberry	<i>Sambucus spp.</i>

### Forbs

- Forbs (herbaceous, flowering plants) attract insects and produce seed, providing year round food for both adult quail and their chicks.
- Legumes are a specific type of forb that produce seeds very high in protein. Legumes like partridge pea can make up the majority of a quail’s overwintering diet.

Consider the following native forbs and legumes for planting:

Legume	Beggarweeds & Tick-trefoils	<i>Desmodium spp.</i> & <i>Hylodesmum spp.</i>
Non-Legume	Coneflowers & Susans <small>*Avoid Purple Coneflower (E. purpurea)*</small>	<i>Rudbeckia spp.</i>
Legume	Partridge Pea	<i>Chamaecrista fasciculata</i>
Non-Legume	Pokeweed	<i>Phytolacca americana</i>
Non-Legume	Ragweeds	<i>Ambrosia spp.</i>
Legume	Roundhead Lespedeza	<i>Lespedeza capitata</i>
Legume	Slender Lespedeza	<i>Lespedeza virginica</i>
Non-Legume	Wild Bergamot	<i>Monarda fistulosa</i>
Legume	Yellow Wild Indigo	<i>Baptisia tinctoria</i>
Non-Legume	Milkweeds	<i>Asclepias spp.</i>
Non-Legume	Sunflowers <small>*native species vary*</small>	<i>Helianthus spp.</i> & <i>Heliopsis helianthoides</i>
Legume	Wild Senna	<i>Senna hepecarpa</i>
Non-Legume	Mountain Mints	<i>Pycnanthemum spp.</i>

### Trees

- Native trees provide an abundance of food for quail and their young, including fruits, nuts, berries, and an abundance of insect life—especially caterpillars.
- Adding thin strips of trees along forest edges to create an “edge feathering” is more ideal for quail than a thick canopy.
- Trees can also be used in conjunction with shrubs to create hedgerows that become important corridors for quail to travel along.

Consider the following native trees for planting:

Viburnum (Arrowwood and Black Haw)	<i>Viburnum</i> ( <i>dentatum</i> & <i>prunifolium</i> )
Pines	<i>Pinus spp.</i>
Dogwoods	<i>Cornus spp.</i>
Hawthorns	<i>Crataegus spp.</i>
White Oak	<i>Quercus alba</i>



For references and further reading, scan this QR Code!