

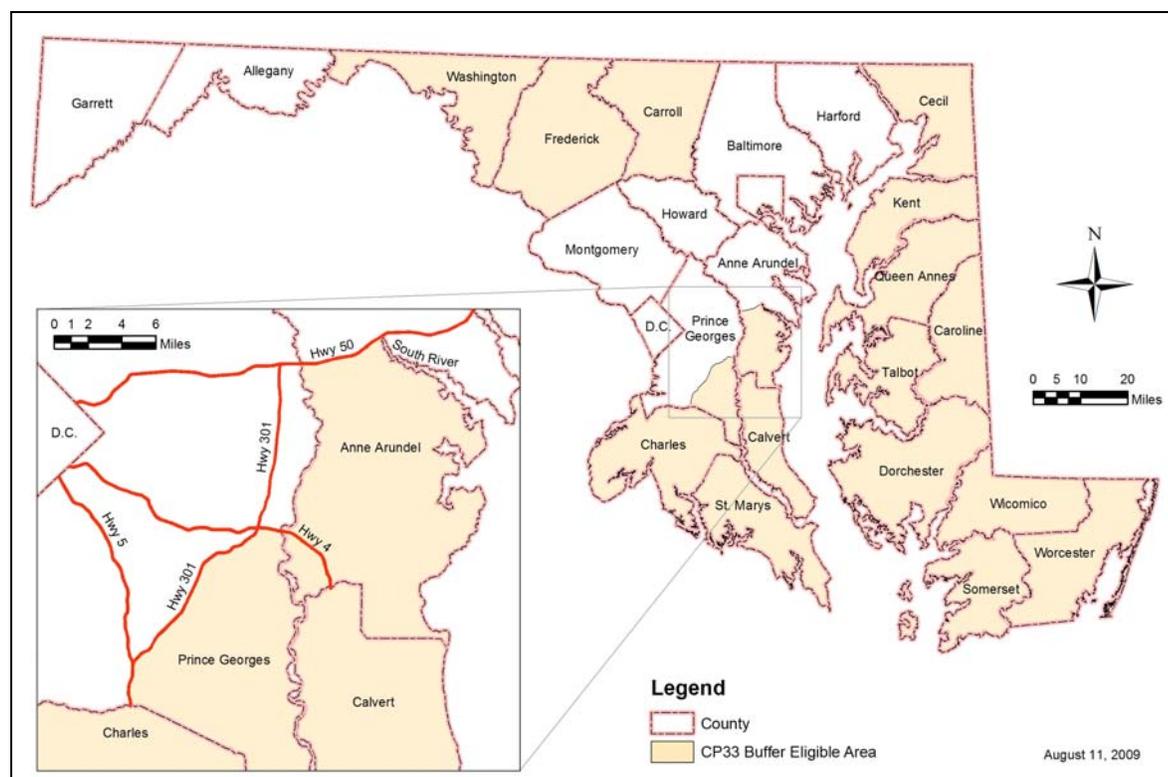
## CRITERIA FOR CP33 – HABITAT BUFFERS FOR UPLAND BIRDS

**Purpose.** To establish permanent herbaceous field borders in cropland fields to provide food and cover primarily for bobwhite quail and other upland birds. Secondary benefits may include reducing soil erosion and improving water quality.

**Application.** This practice is applied to eligible cropland parallel to and immediately adjacent to a field perimeter. Upland habitat buffers may be established along any or all portions of a field edge that is suitably located to provide bobwhite quail habitat. Where feasible, consideration should be given to establishing habitat buffers around the entire perimeter of the field.

Habitat buffers adjacent to highway rights-of-way should generally be avoided due to concerns about wildlife mortality and encroachment on the buffer by highway mowing equipment.

In Maryland, this practice is restricted to portions of the state where known populations of bobwhite quail persist and there is sufficient likelihood that quail abundance can be increased by applying this practice. Focus areas are Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Kent, Queen Anne's, Somerset, St. Mary's, Talbot, Wicomico, and Worcester Counties, and Anne Arundel County south of US Hwy. 50 and the South River, and Prince George's County south and east of US Hwy. 301 and State Hwy. 4.



**Figure 1.** Map of areas eligible for CP33 Habitat Buffers for Upland Birds.

**Cost-Sharing.** Cost-sharing is limited to the components needed to establish suitable vegetative cover and may include:

1. Temporary cover;
2. Grading, leveling, and filling to control concentrated flow;
3. Site preparation;

4. Eligible seed or seedlings;
5. Lime and fertilizer, to the extent needed to establish adequate cover;
6. Buffer boundary markers.

During practice implementation, weed control is eligible for cost-share as provided in FSA Handbook 2-CRP. After planting, cost-share may be authorized for one post-planting weed control application if it is applied within the first 12 months after planting the cover. Eligible weed control treatments can be mechanical or chemical for pre-treatment or treatment at the time of planting. Mowing is not eligible for cost-share if it is used for post-planting weed control.

CRP cost-sharing is limited to 50% of the authorized reimbursable costs of establishing the practice.

**Size Limits.** A maximum of 2,100 acres can be enrolled in CP33 in Maryland.

CP33 buffers must be a minimum of 35 feet wide but no more than a maximum average width of 120 feet.

**Practice Requirements.** The following requirements apply:

1. The wildlife buffer will be established according to the NRCS conservation practice standard for Field Border (Code 386) in the Maryland FOTG.
2. Suitable herbaceous vegetation may be established in either of two ways:
  - a. Planting – The buffer area will be planted to an approved mix of native grasses, legumes, and/or shrubs. (For approved herbaceous mixes, refer to the table on page 3.) At least 90% of the buffer must be herbaceous.
  - b. Natural regeneration – The buffer area boundary will be marked with permanent posts, and not planted (except for a cover crop, if needed) to produce natural, predominantly herbaceous vegetation. At least 90% of the buffer must be herbaceous.

On sites with greater than 3 percent slope that will be at risk for erosion during the winter-spring period, small grain (wheat, barley, or oats) must be planted as a cover crop in the fall at the rate of 20-40 lbs/ac, after which natural regeneration shall be allowed to occur.

3. All CP33 buffers must be marked with permanent posts to control encroachment during cropping activities. FSA is authorized to provide cost-share for approved markers. Approved markers include 5-foot white fiberglass rod posts, minimum 3/8-inch diameter (a type used for electric fence), and 5-foot heavy duty metal "T" or "U" fence posts, galvanized or painted, with anchor plates. Materials that exceed these requirements, or will have equivalent or greater effectiveness, may be acceptable if approved in advance by NRCS. Fiberglass posts are generally preferable to metal, due to their flexibility, better visibility, and lower cost. If broken, they are also less likely to damage farming equipment.

Install posts to mark the edge where the buffer meets cropland. Set all posts firmly in the ground. Posts must be installed on all corners, and spaced along the buffer so that they are visible from one marker to the next. On curves, posts should generally be placed a maximum of 100 feet apart. Where the buffer is straight, posts can be spaced farther apart. Intervals of up to 300 feet between posts are recommended on straight runs when 3/8-inch fiberglass or metal fence posts are used.

4. Shrubs, whether planted or naturally regenerating, shall not comprise more than 10 percent of the buffer area. Only approved native shrub species shall be planted. Refer to Table 4 of the NRCS conservation practice standard for Conservation Cover, Code 327, for a selected list of native shrubs.

5. The buffer areas shall not be harvested or grazed by domestic livestock for the life of CRP-1. Managed haying and grazing is not allowed with this practice.
6. Chemicals used in performing the practice must be EPA-registered, and applied strictly according to authorized registered uses, directions on the label, and other Federal or State policies and requirements.
7. Noxious weeds and other undesirable plants or pest species shall be controlled as necessary to avoid an adverse impact on nearby properties.
8. Upland habitat buffers shall not be applied adjacent to other CRP or CREP buffers, including filter strips, riparian forest buffers, or other CRP/CREP contract acreage. Current CRP rules do not allow buffers to be added to enrolled buffers or other CRP/CREP acreage. (No contract-on-contract.)
9. Buffers shall not be used as turn rows, farm lanes, or for storage of crops or equipment.
10. Habitat buffers shall have periodic management activities performed, according to the conservation plan, during the life of CRP-1. 50% cost-sharing is available for management activities as specified below. Management activities are permitted only if performed outside of the nesting season. The primary nesting season dates in Maryland are April 15 – August 15.

Management requirements are as follows:

- a. Buffers established via natural regeneration will require periodic light strip-disking beginning at year 4 of the contract. Prescribed burning may also be used if needed to remove heavy top growth and thatch. Warm-season grass buffers established via planting will require periodic prescribed burning or light strip-disking beginning at year 4 of the contract, then every 3 years thereafter.
  - b. If light strip-disking is used, no less than  $\frac{1}{4}$  and no more than  $\frac{1}{2}$  of the buffer shall be strip-disked in any single year to maintain adequate vegetative cover. However, no portion of the buffer shall remain unmanaged for greater than 5 years.
  - c. If periodic disking and/or prescribed burning is inadequate to control the encroachment of woody species, selective herbicide application is permitted.
11. Mowing is not a management practice (it is considered maintenance) and will not be cost-shared. Mowing is an inadequate means of disturbance for long-term management of quail habitat, except as needed to facilitate prescribed burning or light strip disking. Maintenance mowing, if needed, is permitted every 2 to 3 years, but not during the nesting season (April 15 – August 15).
  12. NRCS will request technical assistance from Maryland DNR wildlife biologists to conduct a site review and develop recommendations for buffer layout and management to provide quality habitat for quail.

**Establishment Timespan.** Establishment after CRP-1 is approved by COC shall be completed by the end of the next normal planting season, unless the producer can provide acceptable documentation that seed or seedlings are not available.

### ***Planting***

All of the grasses in the following table have the following general characteristics:

1. Maryland native species;
2. "Bunch-type" growth form, which makes them ideal for quail habitat;
3. Low nutrient requirements, so fertilizer is usually not needed;
4. Relatively non-competitive in a mix of grasses and forbs, so it is easier to maintain stand diversity.

Select an appropriate mix of grasses and forbs based on site conditions and landowner preferences. **A grass-forb mix must contain at least two native grass species, of which at least one must be a warm-season grass.** The combined seeding rate of all grasses planted cannot exceed 6 lbs/ac.

<b>APPROVED PLANTING MIXES FOR CP33 - HABITAT BUFFERS FOR UPLAND BIRDS</b>			
<b><u>Choose at least 2 of the following native grasses:</u></b>	<b>Seeding Rate (lbs/ac)</b>	<b>Soil Drainage Class <u>1/</u></b>	<b>Remarks</b>
<b>Warm-Season Grasses</b>			
Big Bluestem <i>Andropogon gerardii</i>	1 - 2	E - MW	Tallest (6 - 8 feet) of the grasses listed here. Prefers dry sites.
Broomsedge <i>Andropogon virginicus</i>	1 - 2	E - SP	Often volunteers in idle crop fields with low fertility and low pH.
Deertongue <i>Dicanthelium clandestinum</i>	1 - 2	E - SP	Usually slow to establish, but tolerates a wide range of site conditions.
Little Bluestem <i>Schizachyrium scoparium</i>	2 - 3	E - MW	Similar in appearance to broomsedge. Prefers dry sites.
Purpletop <i>Tridens flavus</i>	2 - 3	E - MW	Best suited for dry, sandy areas or sites with shallow soils. Does not compete well with CSG or heavy weed pressure.
Sideoats Grama <i>Bouteloua curtipendula</i>	2 - 3	E - MW	Prefers near-neutral pH, dry sites, very low fertility.
<b>Cool-Season Grasses</b>			
Canada Wild Rye <i>Elymus canadensis</i>	1 - 2	E - MW	Both species prefer partial shade. Seedlings are vigorous and establish quickly, but are not highly competitive with other grasses. Good in a mix with WSG & forbs, but will not persist if prescribed burning is used.
Virginia Wild Rye <i>Elymus virginicus</i>	1 - 2	MW - P	
<b><u>And add at least 2 of the following legumes:</u></b>			
Bush Clover <i>Lespedeza capitata</i>	1 - 8 ounces	E - MW	Native perennial legume. Grows 2 - 3 feet tall.
Common (Kobe) Lespedeza <i>Kummerowia striata</i>	2 - 3	E - MW	Introduced annual legume.
Korean Lespedeza <i>Kummerowia stipulacea</i>	2 - 3	E - MW	Introduced annual legume.
Ladino Clover <i>Trifolium repens</i>	1 - 2	W - SP	Introduced perennial legume. Ladino is a tall white variety.
Partridge Pea <i>Chamaecrista fasciculata</i>	1 - 2	E - SP	Native annual legume.
<b><u>Optional:</u></b> Up to 1 pound total of native legumes or native wildflowers can be planted if desired.	≤ 1	See Mix 8, Code 327.	Broadleaf flowering plants provide a food source for insects, which in turn can provide food for quail.
<b><u>Optional:</u></b> Up to 10% of the buffer area can be planted in approved native shrub species (min. 400 SF clumps recommended).	6 x 6-foot spacing recommended for dense escape cover	See Table 4, Code 327.	See Table 4, Code 327 for additional details.

**Note:**

**1/** Soil Drainage Class (refer to the county soil survey for further information): E - Excessively Drained; W - Well Drained; MW - Moderately Well Drained; SP - Somewhat Poorly Drained; P - Poorly Drained.

### ***Natural Regeneration (Fallow Buffers)***

Buffers established by natural regeneration shall consist of a mix of volunteer annual and perennial grasses and forbs (legumes and/or other broadleaf plants). Commonly occurring grasses that may occur in a fallow buffer include crabgrass, foxtail, fall panicum, broomsedge, deertongue, switchgrass, and purpletop. Forbs may include asters, beggarticks, docks and sorrel, goldenrod, joe-pye-weed, partridge pea, Queen Anne's lace, mare's tail, and ragweed. Many of these plants are considered "weeds," but if managed properly, they can provide excellent wildlife food and cover.

Noxious weeds, aggressive introduced grasses (such as tall fescue and orchardgrass), and other aggressive introduced species on the CRP "do not plant" list are not acceptable and, if present, must be adequately controlled.

**Monitoring Plan.** FSA Notices CRP-479 and 485 specify that states implementing CP33 must develop a monitoring and evaluation plan. Recommendations set forth by the Southeast Quail Study Group (SEQSG) Research Subcommittee (see Attachment 1) outline a regional monitoring protocol that will provide needed data to assess the effects of CP33 on bobwhite quail and associated songbird populations. The draft protocol specifies that the 20 states that were allocated 95% of the CP33 acreage should conduct intensive monitoring, resulting in sufficient data to detect an overall effect of buffers on the targeted species. In the remaining states, including Maryland, the protocol suggests, "...some reduced intensity of sampling, producer survey, or extrapolation of CP33 effects from intensively monitored states may suffice."

Based on the recommended monitoring protocol, no formal evaluation is required in Maryland. However NRCS, FSA, and the Maryland Department of Natural Resources have agreed that a limited monitoring effort is desirable to determine the relative effect of CP33 on target wildlife species in Maryland. A state-specific sampling scheme involving a combination of spring quail call counts and songbird counts has been developed using the recommendations of the SEQSG as a guide. This sampling protocol will be less labor-intensive and costly than the "intensive monitoring protocol" suggested for the other 20 states, but still allow for valuable information to be gathered regarding the effects of the buffers.

In Maryland, quail and songbird surveys will be conducted on approximately 10% of the contracts beginning in spring of 2005. A list of landowners will be obtained from FSA County Office databases, and then compiled to create a "master list" used to randomly select contracts. Spring surveys will be conducted using procedures outlined in Attachment 1. Fields with buffers (treatments) will be paired with fields without buffers (controls) preferably on the same farm. Surveys will be conducted on a minimum of 2 mornings at the same field pairings to minimize daily variation. Additionally, surveys will be conducted on each contract selected for the duration of the contract.

Maryland DNR Wildlife and Heritage Service field staff will have primary responsibility for the field surveys, data analysis, and summarization of the monitoring component of this program. Due to limited staff resources, a maximum of 20 buffer field/control field pairs will be monitored per year. Although the resulting data will not necessarily be statistically rigorous enough to estimate absolute quail and songbird densities, it will provide an adequate index to assess relative differences between buffered fields and non-buffered fields. The sampling should also prove to be a valid method to detect trends in bird abundance through the life of the contract.

In addition to quail and songbird monitoring, assessment of the vegetative cover conditions of the buffer will be conducted as outlined in Attachment 2. This level of documentation will suffice to determine if the cover established deviates from the cover agreed to in the contract and could negatively impact bird abundance.

**ATTACHMENT 1** (taken from “CP33-Upland Habitat Buffers Monitoring Protocol-DRAFT,” *Burger et al. October 2004*)

### **Procedure for Breeding Season Bobwhite Quail Calling Male Point Counts**

1. Make sure all points have been clearly marked prior to the survey (flagging, pole, location coordinates) and observers understand directions to the point.
2. Have maps and field sheets ready for observers. In ArcGIS, the field sheet can overlay coverage of the survey area. For the ArcGIS template, open the file: *04coveycountfieldsheet.mxd*
3. Do not conduct the survey if there are high winds (> 6.5 km/hr), cloud cover (>75% cloud cover), rain, or a dramatic drop in barometric pressure (> 0.05 in/Hg).
4. Multiple points per morning can be surveyed by a single observer as long as observers complete counts within 2 hours after sunrise.
5. All observers should arrive at the first point of the morning approximately 15 minutes before sunrise. Disturbance should be kept to a minimum while at the point.
6. Before calling begins, orient the field sheet/map in the appropriate direction and be prepared to record data.
7. Call counts will consist a 5-minute observation period in which the number of calling males detected will be recorded within each of 5 distance bands (0-50 m, 50 – 100 m, 100 – 250 m, 250 – 500 m, >500 m).
8. Record each calling male once on the field sheet by placing a unique number in the appropriate location and distance category from the survey point.
9. During the calling period, rotate to face all cardinal directions to assist in hearing calling males from all directions.
10. Use mapped bird locations to determine if subsequent calling birds have already been detected. Add new birds only if it is possible to verify they are unique.
11. At the end of the survey, visually estimate cloud cover and measure or estimate wind speed (use an anemometer if available). Count the total number of calling males and the number of males for each distance category. Complete the datasheet. After returning to the office, collect barometric pressure (in/Hg) observations for 1 am and 7 am to calculate the change. This information will be used for calculating the predicted call rate.

### **Procedure for Songbird Counts**

1. After the 5-minute bobwhite point count is completed, conduct a 10-minute songbird count, recording number of individuals and distance for each of the 8 selected songbirds identified for regional monitoring (e.g., Dickcissel, Indigo Bunting, Common Yellowthroat, Eastern/Western Meadowlark, Grasshopper Sparrow, Song Sparrow, Eastern Bluebird, Loggerhead Shrike).
2. Do not conduct the count during high winds or heavy rains. Counts should not be conducted if it is raining hard or if wind strength on the Beaufort Scale is a sustained 4 or greater. If these conditions are encountered, cancel the sampling for the day and reschedule.
3. Orient the songbird bull’s-eye data sheet to a fixed direction, record the wind and sky conditions, tempera-

ture, date, time, and observer. Concentric circles on the data sheet indicate distances of 0-25 m, 25-50 m, and 50-100 m (*note this is a different distance band width than for bobwhite counts*).

4. Use a pocket timer or watch to keep track of time.
5. Record each bird seen or heard with the appropriate species codes [Appendix C in Hamel et al. (1996)]. Count family groups of juveniles with a single adult as a single bird.
6. Mark birds on the data sheet in the appropriate distance band and approximate spatial location. Use standard coding symbols included on the data sheet to aid in separating individuals [4 letter species alpha codes can be found in Appendix C of Hamel et al. (1996)].
7. Record data for different time intervals (0-3 minutes, 4-5 minutes, and 6-10 minutes) of the count in different ways. Some people like to use different color pens; alternatively, detections can be underlined or double underlined to indicate the different time periods. Be sure to record a legend of the chosen coding scheme on the data sheet for future reference.
8. Holding the sheet in a fixed position, spend part of the time facing in each of the cardinal directions in order to better detect birds.
9. Mark each bird once, using the mapped locations to judge whether subsequent songs are from new or already recorded individuals. All birds greater than 100 m from point center are recorded outside of the 100-m band; likewise, flyovers are recorded at the bottom of the page. The recorded distance should be the horizontal distance between the location a bird was first detected and the plot center. For species that occur in flocks, record the flock (e.g., species) and flock size in the appropriate distance band. There is no need to record each bird in a flock individually.
10. At the end of 10 minutes, stop recording bird observations. Do not record any new birds seen or heard after the 10 minutes have passed.
11. Record the latitude and longitude coordinates from the GPS unit and mark the location.

**ATTACHMENT 2** (taken from “CP33-Upland Habitat Buffers Monitoring Protocol-DRAFT,” *Burger et al. October 2004*)

### **Field-level Monitoring Protocol of Vegetative Cover**

The following information will be recorded for each CP33 field in the sample.

1. Contract width/actual width (measured at 10 points systematically distributed at equal intervals around the field boundary).
2. Contracted [planned] cover.
3. Dominant taxa and key species (e.g., planted species, perennial and annual weeds, etc.) Is contracted cover established?
4. Percentage in trees and shrubs (not to exceed 10%).
5. Presence of noxious weeds.
6. Percentage of field border in aggressive exotic forage grasses (tall fescue, bermudagrass, etc).
7. Percentage of field border disturbed by non-compliance and type (mowing, turning, cultivation, parking of equipment, herbicide drift, grazing, etc).
8. Mid-contract management activities (percentage of the border treated and type of treatment: disking, prescribed fire, herbicide, etc).