

# Upland Wildlife Habitat Management

North Carolina Practice Job Sheet 645

Prepared for: \_\_\_\_\_

Prepared by: \_\_\_\_\_

Farm: \_\_\_\_\_ Tract: \_\_\_\_\_ Date: \_\_\_\_\_



Upland Wildlife Habitat Management can help develop the wide variety of forested and open upland habitats that wild turkeys and other wildlife require.



This practice involves management of grasses, broadleaf weeds and woody plants to produce good wildlife habitat.

## DEFINITION

Creating, restoring, maintaining, or enhancing habitat elements for wildlife that uses uplands for a portion of their life cycle.

## PURPOSES

- Treating upland wildlife habitat concerns that prohibit movement as identified during the planning phase.
- Provide shelter, cover, food, locations and times to sustain wild animals.

## CRITERIA

Land treated with this practice will be actively managed to improve or sustain the upland wildlife habitat at or above 50% of its potential, regardless of land use.

Wildlife Habitat Evaluation Procedures (WHEP), or an alternative procedure approved by the NCRS state biologist, will be used to measure land's habitat potential.

Grazing, haying, and other manipulation of habitat are prohibited during nesting season (April 15<sup>th</sup> through September 15<sup>th</sup>) except for the establishment of habitat-forming vegetation or control of warm season pest plants or woody vegetation that impairs habitat function.

Regulated noxious weeds and invasive plants will be controlled.

Use of native species, regional/local eco-types, and source identified releases will be a priority.

## CONTROLLING EXOTIC COOL-SEASON PLANTS:

Applicable on improved pastures and cool season turf areas where habitat-forming vegetation will be established.

- Apply an appropriate herbicide according to its label instructions. Refer to the NC Ag Chemicals Manual for herbicide selection and appropriate use.
- If a heavy residue of dead plant matter remains after spraying, use the NRCS Prescribed Burning practice to encourage growth of warm season plants.

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- If post-treatment inspection reveals incomplete pest plant control, a repeated herbicide treatment is needed.
- Once the pest plant(s) are controlled, re-vegetate the field using either a cover crop and volunteer vegetation, or a permanent planting selected from Appendix 1, 2, or 3.



Mixtures of native grasses and broadleaf plants (called forbs) improve habitat condition and add aesthetic appeal to the landscape.

### CONTROLLING EXOTIC WARM SEASON VEGETATION:

Applicable on improved pasture and warm season turf areas where habitat forming vegetation will be established.

- Apply an appropriate herbicide, according to its label instructions during the summer (see Fig. 3, for dates). A minimum of two herbicide treatments is normally required for adequate control.
- Consult the NC Ag Chemicals Manual for advice on herbicide selection and use.
- Multiple treatments may be required to successfully control pest plants.
- Once the pest plant(s) are controlled, re-vegetate the field using either a cover crop and volunteer vegetation, or a permanent planting selected from Appendix 1, 2, or 3.

### LIGHT STRIP DISKING:

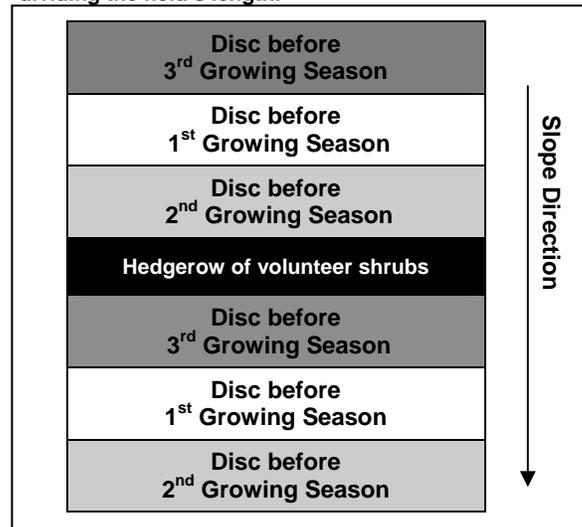
Strip disking is a “rest-rotation system” used to manage grassy and herbaceous habitat. Vegetation is allowed to grow for 3 to 5 years before disking disturbs the vegetation, causing a mosaic of vegetation to develop in the field.

Strip disking is applicable where exotic grasses and undesirable woody vegetation have been adequately controlled by other means; and slopes are 7% and flatter.

- Disked strips should be laid out across the dominant slope (following field contours).

- Minimum width of individual strips is 30 feet;
- Disc each strip on a 3 to 5 year interval between February 15 to April 15.
- Run disc blades straight, at 2-4” depth to lightly stir the soil surface and crush vegetation. At least 30% of ground surface should remain covered by plant residue.

Fig. 1 Conceptual designs for a field with 3-yr. strip disking rotation and a hedgerow of volunteer shrubs dividing the field’s length.



The objectives of light disking are setting back growth of perennials and encouraging volunteer annuals - it is not for destroying the cover.

### ESTABLISHING NATIVE GRASSES, FORBS AND TEMPORARY COVER:

Applicable where volunteer vegetation alone will not meet the habitat conservation objectives of the land manager.

- Only plants listed in Appendix 1 or 2 are suitable for this practice. The NRCS State Biologist or State Plant Materials Specialist may authorize substitutions.
- Procedure:
  - a. **Determine Seed Quality** - All seed must have been tested and labeled for purity and

germination to enable Pure Live Seed (PLS) calculations that determine proper planting rates. Use attached Specifications along with information from the seed tag to determine how much total seed is needed.

Ask your seed dealer if they sell native grass on a Pure Live Seed (PLS) basis.

b. **Kill off Existing Sod** - Refer to grass control instructions on the previous page of this job sheet.

c. **Amend the Soil** - Apply lime and fertilizer as recommended by a soil test report. For native warm season grasses it is recommended that no fertilizer be applied at time of establishment.

d. **Prepare the Seedbed** - The seedbed must be essentially free of competing vegetation. It should be firm enough to permit seed placement at the desired depth and protected against erosion. A firm seedbed should hardly reveal adult footprints. This will allow for placement of the seeds at a depth of 1/4 to 3/4 of an inch into the soil.

e. **Plant the Seed** - Use a grain drill, grass drill, air seeder, or a drop seeder specifically designed for native grass establishment to ensure correct seed distribution and planting depth (see Fig. 2 for seeding depth).

f. **Manage Competing Vegetation** - During the establishment year, monitor growth of seedlings and carefully mow tops off of competing vegetation (above the height of emerging native grasses) before the pest plants set seed. Correct use of appropriately labeled herbicide is also acceptable.

**Fig. 2 Proper Seeding Depth**

Soil Texture	Seeding Depth
Fine to Medium	1/4 to 3/4 inch
Coarse	1/2 to 1 inch

**Fig. 3 General Planting Seasons. (NOTE: Planners may adjust dates to local/site conditions.)**

Permanent Cover	TN line east to I-77	Between I-77 & I-95	East of I-95
Spring	March 15 to May 1	Feb. 15 to Mar. 31	Feb. 10 to Mar. 31
Summer	May 1 to May 31	April 1 to June 1	April 1 to June 15
Fall	Aug. 1 to Oct. 25	Aug. 15 to Oct. 30	Sept. 1 to Nov. 15
Temporary Cover			
Fall	Oct. 15 to March 20	Oct. 25 to Feb. 20	Nov. 10 to March 1
Summer	May 25 to Aug. 5	May 25 to Aug. 20	June 10 to Sept. 5

**ESTABLISHING TREES & SHRUBS:**

Applicable where trees and shrubs are needed to meet habitat requirements of desired wildlife.

- Species and planting rates shall be selected from Appendix 3 and established according to the NRCS Tree/Shrub Establishment (612) practice.

**FOREST OPENINGS:**

Applicable on landscapes dominated by closed-canopy forest.

- Openings shall be 0.5 to 5.0 acres.
- Limit opening establishment to even-aged or monoculture forest stands ranging in size from 10 to 250 contiguous acres.
- Specify at least 5 years of management so trees and shrubs do not occupy over 10% of an opening's area.
- Forest openings are semi-permanent patches of early succession habitat located in a uniform forest stand and fragmented landscape.

**OPERATION AND MAINTENANCE:**

- Evaluate habitat conditions on a regular basis in order to adapt the conservation plan and schedule of implementation.
- Annually inspect and repair structural or vegetative components of this practice

# Wildlife Cover Specifications for NRCS 645/327, and CRP practices

IF SHRUBS OR TREES WILL BE PLANTED, THE NRCS TREE/SHRUB ESTABLISHMENT JOB SHEET WILL BE FURNISHED TO ACCOMPANY THIS SPECIFICATION.

Client: \_\_\_\_\_ Tract: \_\_\_\_\_ Date: \_\_\_\_\_

					Calculate Bulk Seed Needed for PLS Specs. (To be completed by participant.)					
Field	(1) Species to be seeded (Appendix 1)	(2) Cultivar or Variety	(3) Per Acre Planting Rate <small>✓ Use Appendix 1 ✓ Indicate if rate is Bulk or PLS</small>	(4) Temporary Cover Crop Seeding Date	(5) Permanent Cover Seeding Date	(6) % Purity <small>✓ From seed tag ✓ Express as decimal</small>	(7) % Germination <small>✓ From seed tag, or "Ragdoll Test" ✓ Express as decimal</small>	(8) Bulk lbs./ac. needed <small>= (3)/(6x7)</small>	(9) Acres to be seeded	(10) Total Bulk lbs. needed <small>= (8)x(9)</small>
<i>Example 1: Switchgrass</i>						0.95	0.52	9 BULK lbs./ac.	12 ac.	108 BULK lbs.
<i>Example 2: Wheat</i>		NA	90 lbs. BULK / ac.			-	-	90 BULK	12 ac.	1,080 BULK

\* The "Ragdoll Test" is a way to verify seed germination rates at home. Consider running this test if the seed tag's date is more than 9 months old, or if you have performed an artificial stratification process on the seed. Contact NRCS for a copy of the "Ragdoll Test" instructions.

Seedbed Preparation Method(s) \_\_\_\_\_

Additional Specifications: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Appendix 1 - Planting Perennial Grasses & Forbs for Wildlife

	Adapted to: Coastal plain (C), Piedmont (P), Mountains (M)	Planting Season	Single Species Stand (Lbs./acre)	TWO Species Mix (Lbs./acre)	THREE Species Mix (Lbs./acre)	FOUR Species Mix (Lbs./acre)	FIVE Species Mix (Lbs./acre)
<b>NATIVE GRASSES</b>			<b>Native grass seed rates indicated are in Pound Pure Live Seed (PLS) per Acre. 1<sup>st</sup> figure is drilled rate &amp; 2<sup>nd</sup> figure is broadcast rate</b>				
Big bluestem	C, P, M	Spring	6	3	2	1.5	1.2
Broomsedge	C, P, M	Spring	5	2.5	1.6	1.25	1
Coastal panicgrass, 'Atlantic'	C, P	Spring	6	3	2	1.5	1.2
Deertongue 'Tioga'	P, M	Spring	6	3	2	1.5	1.2
Eastern gamagrass	C, P, M	Spring	4	2	1.3	1	0.8
Indiangrass	C, P, M	Spring	6	3	2	1.5	1.2
Little bluestem	C, P, M	Spring	5	2.5	1.6	1.25	1
Purple top	C, P, M	Spring	6	3	2	1.5	1.2
Sideoats grama	C, P, M	Spring	6	3	2	1.5	1.2
Switchgrass	C, P, M	Spring	6	3	2	1.5	1.2
Virginia wildrye	C, P, M	Spring	8	6	4	3	2
<b>INTRODUCED GRASSES</b>							
Red top			10	8	6	4	2
Kentucky bluegrass			15	12	9	6	3
Timothy			10	8	6	4	2
Orchardgrass			15	12	9	6	3

<b>FORBS IN SEED MIXTURES</b>			<b>All rates for forbs are in PLS unless otherwise noted.</b>				
Birdsfoot trefoil	C, P, M	Fall	4	2	1.3	1	0.8
Black-eyed susan	C, P, M	Fall	1	0.5	0.3	0.25	0.2
Roundhead lespedeza	C, P, M	Spring	Bulk 15	7.5	5	3.75	3
Coreopsis	C, P, M	Spring	1	0.5	0.3	0.25	0.2
Goldenrod	C, P, M	Fall	1	0.5	0.3	0.25	0.2
Partridge pea	C, P, M	Spring	6	3	2	1.5	1.2
Perennial sunflower ( <i>Helianthus</i> )	C, P, M	Fall	1	0.5	0.3	0.25	0.2
Purple coneflower	C, P, M	Fall	1	0.5	0.3	0.25	0.2
Beggarlice ( <i>Desmodium</i> )	C, P	Fall	8	4	2.6	2	1.6

## Appendix 2 - Planting Food Plots & Temporary Cover for Wildlife

FOOD PLOTS & TEMPORARY COVER	Annual (A) or Perennial (P)	Adapted to: Coastal plain (C), Piedmont (P), Mountains (M)	Planting Season	Seeding Rate per Acre	Seeding Rate per 1,000 Sq. Ft.
<b>Annuals</b>					
Austrian winter pea	A	C, P, M	Fall	30	2
Barley	A	C, P, M	Fall	90	5
Crimson clover	A	C, P, M	Fall	10	1
Oats	A	C, P, M	Fall	90	5
Rye, grain	A	C, P, M	Fall	90	5
Wheat	A	C, P, M	Fall	90	5
Buckwheat	A	C, P, M	Spring	50	3
Corn	A	C, P, M	Spring	15	1
Kobe lespedeza	A	C, P, M	Spring	30	1.5
Korean lespedeza	A	C, P, M	Spring	30	1.5
Partridge pea	A	C, P, M	Spring	10	2
Ragweed	A	C, P, M	Spring	5	0.5
Sunflower	A	C, P, M	Spring	10	1
Cow peas	A	C, P, M	Summer	60	4
Foxtail millet	A	C, P, M	Summer	10	1
Pearl millet	A	C, P, M	Summer	10	2
Proso millet	A	C, P, M	Summer	10	2
Sorghum, Milo	A	C, P, M	Summer	8	0.5
Soybeans	A	C, P, M	Summer	12	2
Egyptian Wheat, 'Sudex'	A	C, P	Summer	10	1
<b>Perennials</b>					
Alfalfa	P	C, P, M	Fall	10	1
Alsike clover	P	C, P, M	Fall	8	0.5
Birdsfoot trefoil	P	P, M	Fall	8	0.5
Ladino clover	P	C, P, M	Fall	5	0.5
Red clover	P	C, P, M	Fall	8	0.5
White Dutch clover	P	C, P, M	Fall	5	0.5
Flat pea 'Lathco'	P	C, P, M	Spring	12	1
Chufa	P	C, P, M	Summer	20	1.5

## Appendix 3 - Planting Trees & Shrubs for Wildlife

	Wetness Tolerance: High, Moderate, or Low	Height at Maturity (ft.)	Noted for: Flowers, Berries, Fruit, Nuts, Cover, or Habitat	Spacing (ft.)
Apple	High-Moderate	30-40	Fruit	15 x 15
Bald cypress	High	100-120	Seeds/Habitat	20 x 20
Beautyberry	Moderate-Low	5-10	Drupes	10 x 10
Beech	High-Moderate	60-80	Nuts/Cover	20 x 20
Black walnut	Moderate	70-90	Nuts	20 x 20
Blackberry	Moderate	4-6	Berries/Cover	10 x 10
Blueberry	High-Moderate	4-6	Berries	10 x 10
Chinquapin	Low	40	Nuts	15 x 15
Chokeberry	High-Moderate	12-15	Fruit	10 x 10
Crabapple	High	30	Fruit	15 x 15
Dogwood, flowering	High-Low	25	Fruit	15 x 15
Elderberry	High-Moderate	10-15	Berries	15 x 15
Gallberry	High-Moderate	3-6	Drupes/Cover	10 x 10
Hackberry	High-Moderate	50-90	Drupes	20 x 20
Hawthorn	High-Low	20-40	Fruit/Cover	15 x 15
Hazelnut	Moderate	10	Fruit/Cover	10 x 10
Hickory	High-Low	Spp. Depend.	Nuts	20 x 20
Holly	High-Moderate	40-70	Fruit/Cover	15 x 15
Mulberry	Moderate	60	Fruit	20 x 20
Oaks (many varieties)	High-Low	Spp. Depend.	Nuts	20 x 20
Pecan	Moderate	100	Nuts	20 x 20
Persimmon	Moderate-Low	20-70	Fruit	20 x 20
Plum, American	High-Moderate	20-30	Fruit/Cover	15 x 15
Plum, Chickasaw	Moderate	6-12	Fruit/Cover	10 x 10
Red cedar	Moderate-Low	40-60	Cones/Cover	20 x 20
Serviceberry	High-Moderate	40	Fruit	20 x 20
Shrub lespedeza 'VA-70', 'Amquail'	Low	10-12	Seeds	Seedlings 5 x 5
Sugarberry	High-Moderate	80	Drupes	20 x 20
Sumac	Moderate-Low	12	Fruit	10 x 10
Winterberry	Moderate	12	Drupes	10 x 10
Yaupon	High-Moderate	20	Fruit/Cover	15 x 15