

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**UPLAND WILDLIFE HABITAT MANAGEMENT**

**CODE 645**

**DEFINITION**

Creating, restoring, maintaining or enhancing areas for food, cover, and water for upland wildlife and species which use upland habitat for a portion of their life cycle.

the natural community under consideration.

**CRITERIA**

**General Criteria Applicable to all Purposes**

**PURPOSE**

- Provide a variety of food for the desired kinds of wildlife species:
- Provide a variety of cover types for the desired kinds of wildlife species, examples include nesting, fawning, loafing, resting, escape, travel lanes, and thermal;
- Provide drinking water for the desired kinds of wildlife species.
- Arrange habitat elements in proper amounts and locations to benefit desired species.
- Manage the wildlife habitat to achieve a viable wildlife population within the species home range.

- Habitat development and management necessary, to achieve the purpose(s), shall be based on a wildlife habitat appraisal or suitable habitat evaluation. The appraisal or evaluation procedure shall be used to determine a habitat suitability for either individual fields, home range areas, habitat type or natural community as well as to provide an overall evaluation for the entire property or operating unit.

Habitat Appraisal or Habitat Evaluation:

- The evaluation will result in a quality rating. This will consider the type, amount, and distribution of habitat elements required. The quality rating will be compared to the quality criteria in Section III of the FOTG.
- If the evaluation indicates a level below the acceptable quality, alternatives will be recommended that will result in the necessary changes in habitat elements or their management

**CONDITIONS WHERE PRACTICE APPLIES**

On all landscapes that are suitable for the kinds of wildlife habitat that are needed within the range of the desired species or

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to bring the rating up to the minimal acceptable or above.

- If the evaluation is at the minimum or above, alternatives will be recommended that will result in the necessary management to preserve, maintain or improve the existing habitat in its present state or toward optimum conditions.

#### Habitat Elements

- The following habitat elements may be considered when assessing wildlife habitat. Not all may apply to every habitat type or species being considered.

1. Food
  - a. Type
  - b. Amount
2. Cover
  - a. Type
  - b. Amount
3. Water
  - a. quality
  - b. quantity
  - c. accessibility
  - d. seasonal availability
4. Interspersion and Distance to
  - a. crops
  - b. grasses and or legumes
  - c. shrubs
  - d. trees
  - e. water
  - f. openings
5. Migration
  - a. routes
  - b. season of use
  - c. corridors

#### Development and Management of Wildlife Habitat:

- As indicated by the wildlife habitat evaluation, certain habitat elements may be weak or missing. For the desired species, identify the types, amount, and distribution of habitat elements and management actions necessary to achieve the management objectives.
- The amount and kinds of habitat elements planned, their location and management shall be identified in a management plan.
- The use of native plant materials shall be encouraged.
- Vegetative manipulations to restore plant and/or animal diversity shall be accomplished by prescribed burning or mechanical, biological or chemical methods, or a combination of the four.
- Livestock grazing or haying shall be conducted to maintain or improve vegetation structure and composition so as to improve the desired wildlife habitat.
- Management measures shall be provided to control invasive species and noxious weeds.
- To protect forbs and legumes that benefit native pollinators and other wildlife and provide insect food sources for grassland nesting birds, spraying or other control of noxious weeds shall be done on a "spot" basis.
- Generally, habitat management establishes and/or maintains the following vegetative types or conditions for combination of types known as habitat elements within the daily or seasonal range, as required, for specified wildlife species or groups of species. (See Table 1 & 2).

- a. Grain and seed crops
- b. Grasses and legumes
- c. Deciduous (hardwood) plants
- d. Coniferous (softwood) plants
- e. Dryland wild herbaceous plants
- f. Wetland plants
- g. Shallow water areas

#### Grain and Seed Crops

These crops include, but are not limited to, seed producing annuals, such as corn, rye, wheat, barley, oats, millet, buckwheat, and other plants commonly grown for grain or seed. Agricultural land or special wildlife food plots can provide this element.

Grain and seed crops are of limited value to wildlife in Maine but the value of "edge" created by Cropland/Woodland border is high. This element can be created and maintained by practices for sound cropland management for the particular site.

Grain and seed crops can be best provided by managing the crop residue with wildlife needs in mind. However, special plantings can and are made to attract specific species to specific locations at specific times for special purposes.

#### Domestic Grasses and Legumes

Making up this group are domestic perennial grasses and legumes that are established by planting and furnishing wildlife cover and food. Among the plants are bluegrass, fescue, ryegrass, timothy, orchardgrass, reed canarygrass, clover, alfalfa, trefoil, crowvetch, and flatpea. Hayland, pastures, mowed fields, seeded woods roads, log landings, field borders, grassed waterways, some orchards, and roadsides established and maintained will provide this habitat element.

A wide variety of grasses and legumes are planted for pasture, hay, and erosion

control. Some are better for wildlife than others and planted to create special conditions for wildlife.

#### Deciduous Plants

This element includes non-coniferous trees, shrubs, and woody vines that produce nuts or other fruits, buds, catkins, twigs, or foliage that wildlife eat. They are generally established naturally, but may be planted. Among the native kinds are oak, cherry, birch, maple, poplar, beech, apple, hawthorn, dogwood, sumac, hazelnut, blueberry, alder, viburnums, grape, blackberry, sweetfern, and raspberry.

Also in this group are several varieties of fruiting shrubs that are raised commercially for planting. Autumn olive, amur honeysuckle, crabapple, highbush cranberry, and silky cornel dogwood are some of the shrubs that generally are available. Diverse age and composition are especially important. Young stands, abandoned fields, and orchards are also in this category.

The greatest impact on this element is made through management of existing stands for natural reproduction and the desired successional stage. Shrubs, however, make valuable contributions when planted to form hedgerows and windbreaks.

#### Coniferous Plants

This element consists of cone bearing evergreen trees and shrubs that are used by wildlife primarily as cover, though they provide browse and seed or fruit-like cones. Among them are spruces, white pine, northern white cedar, eastern hemlock, balsam fir, juniper, yew, and tamarack. Generally, the plants are established naturally, but they may also be planted. Few species of wildlife benefit from even-age stands of conifers. Uneven-aged mixed growth provides best habitat element conditions except in wintering areas for deer and moose.

These standards are not intended to apply to wintering areas. The Maine Department of Inland Fisheries and Wildlife should be notified and consulted on management of "yards".

Coniferous trees can provide valuable wildlife cover. However, as the trees become large and naturally prune and thin themselves, and as the amount and diversity of understory plants decrease, the value is often reduced. Dense even-age stands are plantations are generally the lowest rate value for general wildlife.

#### Dryland, Wild, Herbaceous Plants

In this group are native or introduced perennial grasses and weeds that generally are established naturally. Some examples are bluestem, quackgrass, goldenrod, wild carrot, nightstand, and dandelion. These are found throughout abandoned fields, burned areas, utility lines, and usually mixed with deciduous shrub growth and/or grasses and legumes.

Wild herbaceous upland plants are established mainly through soil disturbance, controlled burning, and grazing control. Very few are planted.

#### Wetland Plants

Making up this group are wild herbaceous and some of the woody plants which grow on moist to wet sites, exclusive of submerged or floating aquatics. They produce food and cover for upland wildlife although they are wetland species. They include smartweed, cattail, sweetgale, willow, buttonbush, barnyard grass, rushes, and sedges.

The establishment and growth of most wetland plants are controlled by water depth and fluctuations. Seed or plant sources can be introduced to speed this process and to introduce more desirable species. Water, however, is usually the controlling element in wetland habitat. Some wetlands support deciduous trees and shrubs or coniferous plants.

#### Shallow Water Areas

Generally, water is not a limiting factor for upland wildlife in Maine. Water is usually present in sufficient quantities throughout the state. Lakes, ponds, streams, and marshes provide water and associated vegetation and wetland wildlife used by species of upland wildlife.

#### Low Value Habitat Areas

Some areas do not provide significant value for most wildlife, depending on condition, location, or cultural practices applied. These areas usually include buildings, roads, parking lots, barnyards, large areas of deep, open water lakes, etc. Agricultural low value habitat areas may include crops such as potato fields during the part of the rotation in potatoes. Consider management practices, pesticide use, fall plowing, etc., and use good judgment.

#### Habitat elements are influenced by:

- a. managing existing vegetation
- b. inducing natural establishment of desired plants
- c. planting suitable vegetation
- d. combinations of the above

Many elements of wildlife habitat provide opportunities for plantings. However, the impact of plantings varies and management of established plantings is important if plantings are to be beneficial to wildlife over a long period of time.

Plantings should be emphasized only:

- (1) when natural succession cannot be expected to develop the desired plants within a reasonable length of time;
- (2) when plants established for other purposes will not do the job; and
- (3) to establish choice food and cover plants in a particular place (i.e, house lots, urban sites) for a particular species or group of species, especially songbirds.

Plantings have the greatest impact on wildlife habitat when they become part of normal land use operations, such as grassed waterways, field borders, hedgerows, stripcropping, conservation cropping systems, pasture-hayland plantings, streambanks, dams, spillways, roadsides, vegetated ditches, vegetated logging roads, and critical area stabilization.

Each animal has a home range. All the requirements for its daily and seasonal needs must be accessible within the home range. The following examples give approximate range of upland animals.

	<u>Daily Range</u>	<u>Seasonal Range</u>
Bear	Variable	50-100 sq. mi.
Deer	100-640 ac.	10-100 sq. mi.
Dove	10-100 ac.	Migratory
Ruffed Grouse	1-10 ac.	10-100 ac.
Snowshoe Hare	1-10 ac.	.5-1sq. mi.
Moose	10-100 ac.	1-100 sq. mi.
Pheasant	.5-100 ac.	1-20 ac. (seldom Lives 1 year in Wild)
Raccoon	10-100 ac.	1-10 sq. mi.
Gray Squirrel	1-10 ac.	1-10 ac.
Woodcock	10-100 ac.	Migratory
Songbirds	¼-10 ac.	Many Migratory
Birds of Prey	10 ac.-100 sq. mi	Most Migratory

The quality of the habitat influences the size of home range. A given condition (i.e., food supply, nest sites, etc.) limits population growth within the home range to the point where another condition becomes limiting. These conditions can be grouped in two general categories – 1) those which are inherited, and 2) those set by the environment. Most inherited limits and some environmental limits are difficult to influence. However, we can influence the vegetative elements of habitat which impose limits on food and shelter.

## CONSIDERATIONS

Wildlife population control (hunting to reduce numbers) which is the responsibility of state and federal wildlife agencies and the landowner may be necessary to protect and maintain certain habitats.

Consider that manipulations of habitat may impact more than the desired kinds of wildlife. These possible effects shall be evaluated and taken into consideration during the planning process.

This practice may be used to promote the conservation of declining species, including threatened and endangered species with special evaluation and consultation.

Consider the problems of habitat fragmentation when using this practice, create large blocks of habitat verses increased edge which leads to predation and parasitism by some species such as cowbirds.

Consider habitat linkages and habitat corridors when developing upland wildlife habitat, if appropriate.

## PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared for each site. Plans and specifications shall be recorded using approved specifications sheets, job sheets, technical notes, or narrative documentation in the conservation plan, or other acceptable documentation.

## OPERATION AND MAINTENANCE

The purpose of operation, maintenance, and management is to insure that the practice functions as intended over time.

A plan for operation and maintenance of upland wildlife habitat at a minimum shall include monitoring and management of structural and vegetative measures.

Timing of haying and livestock grazing will avoid periods when upland wildlife are nesting, fawning, etc. and will allow the

establishment, development, and management of upland vegetation for the intended purpose.

Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.

### **PROCEDURES FOR EVALUATING UPLAND WILDLIFE HABITAT IN MAINE**

Three factors are to be considered:

1. Percent composition of habitat elements in a given area.
2. Diversity and distribution of the habitat elements.
3. Quality of habitat elements.

If one or more of these factors are deficient, then the habitat quality is lowered – regardless of the other factors.

Refer to Worksheets #1 and #2 and their instructions to evaluate upland wildlife habitat.

## **NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE SPECIFICATION WILDLIFE UPLAND HABITAT MANAGEMENT CODE 645**

### **SPECIFICATIONS**

Wildlife Upland Habitat Management (645) can be reported in acres evaluated (minus “low value” acres) when:

- a. Diversity rating is +1, +2, or +3 (Column 3, Worksheet #2).
- b. Composition of habitat element score is 8 or better (Column 1, Worksheet #2).
- c. Condition of habitat elements is judged to be good especially critical elements (See Tables 1 & 2).

- d. Conservation plan documents the practices needed to create or maintain these conditions.

### **Quality Criteria**

The quality criteria for habitat (wildlife) is met at the moderate level when the minimum levels are met in a-C above. Diversity rating +1, Composition >8 and all habitat “conditions” are judged to be “good” or better.

## Upland Habitat Resource Inventory for Worksheet #1

1. Identify wildlife habitat objectives, i.,e. deer, general wildlife, etc. Record on Worksheet #1.
2. Delineate all fields, forestland stand types, forest openings, hedgerows, roads, streams, wetlands, etc. on conservation plan map or other aerial photograph. Differentiate by habitat elements of different land treatments. Consider in existing condition and planned condition after conservation practices are applied.
3. Become familiar with farm, watershed, or other area by field observation and discussions with landowner(s) or operators.
4. Record judgment of the habitat element condition (i.e., good, fair, poor).
5. List predominant plant species in the habitat elements in each field on Worksheet #1.
6. Measure acres in different habitat elements in each field in the wildlife resource management system. Use a dot grid or planimeter. Estimate areas under one acre.
7. Divide the total land area being considered for management (RMS) into the area of each habitat element.  
 Example: 10 acres of grass and legume  
                   100 acres total area  
 = 10 percent grasses and legumes
8. Record the number of stands, units, or fields in each habitat element on line 3.  
 Example: one 3 acre pasture  
           one 5 acre hayfield  
           one 2 acre grassed waterway

Examples – Cropland in corn or beans with soil loss greater than 3 tons is poor under grain and seed crops.

- Fall plowed fields – usually poor quality
- Vigorous hayland of alfalfa is good grasses and legumes.
- Grazed hardwood woodlots are poor under deciduous trees, shrubs, and vines.
- Diverse, uneven-age hardwood stand is good
- Most dense, and mature coniferous plantations may be poor quality for wildlife. Many x-mas tree plantations are fair to good.

This is 3 units of grass and legumes.



## WILDLIFE HABITAT EVALUATION WORKSHEET #2

Rate the habitat elements for that species by percent composition for the wildlife species chosen by the landowner.

If the size of the operating unit being evaluated meets or exceeds the daily range of the wildlife species to be managed (minimum acreage to evaluate), evaluate the acreage in the entire operating unit.

If the size of the operating unit being evaluated does not meet or exceed the daily range of the wildlife species, evaluate additional sufficient acreage adjoining the operating unit to meet the daily range of the species.

Add the score for each habitat element based on the percent of resource management system covered. Record this total in column 1, Inventoried Composition Score. Example:

### Wildlife Habitat Rating Worksheet 2 % Percent Composition %

(min. Ac/MA to Eval.)	Grain and Seed Crops	Domestic Grasses and Legumes	Wild Herb Upland Plants	Decid. Trees and Shrubs	Conif. Trees and Shrubs	Wetland Plants	Shallow Water Areas	Inventoried Composition Score/Rating
General Upland Wildlife	30 or 4 MA	0-4=1 5-15=2 16-25=1 >25=0	0-4=0 5-9=1 10-25=2 26-35=1	0-5=0 6-10=1 11-15=2 16-20=1	0-10=0 11-25=1 26-50=2 51-75=1	0=0 1-10=1 11-35=2 36-50=1	0-2=1 3-5=2 6-10=1 >10=0	0=0 1-2=1 3-5=2 6-10=1 >10=0

### Element Composition Rating Criteria

<u>Score</u>	<u>Rating</u>
1-3	Poor
4-7	Fair
8-11	Good
12+	Excellent

**WILDLIFE HABITAT RATING WORKSHEET 2**

	(min. Ac/HA to Evaluate)	Grain and Seed Crops	Domestic Grass and Legume	Wild Herb Upland Plants	Deciduous Trees and Shrubs	Coniferous Trees and Shrubs	Wetland Plants	Shallow Water Areas	Inventoried Composition Score/ Ratio	Diversity Rating	Total Score	Final 1/ Rating
White-tailed Deer	640 Ac. or 260 HA.	0-5=2 6-15=1 >15=0	0-4=1 5-10=2 11-20=1 >20=0	0-10=1 11-20=2 21-30=1 >30=0	0-10=0 11-20=1 21-50=2 51-75=1 >75=0	0-5=0 6-25=1 26-50=2 51-75=1 >75=0	0-5=1 6-15=2 16-20=1 >20=0	0-2=1 3-5=2 6-10=1 >10=0				
Ruffed Grouse	20 or 8 HA.	0-5=2 6-15=1 >15=0	0-10=2 11-20=1 >20=0	0=0 1-5=1 5-15=2 15-30=1 >30=0	0-20=0 21-50=1 51-75=2 6-90=1 >90=0	0-5=1 6-35=2 35-50=1 >50=0	0-2=2 3-5=1 >5=0	0-2=2 3-5=1 >5=0				
Hare	10 or 4 HA.	0-5=2 6-15=1 >15=0	0-4=2 4-10=1 >10=0	0=0 1-5=1 6-10=2 11-15=1 >15=0	0-10=0 11-25=1 26-50=2 51-75=1 >75=0	0-10=0 11-30=1 31-60=2 61-85=1 >80=0	0-2=2 3-5=1 >5=0	0-2=2 3-5=1 >5=0				
Pheasant	50 or 20 HA.	0-20=0 21-35=1 36-75=2 >75=1	5=0 5-9=1 10-25=2 26-35=1 >35=0	0-5=0 5-15=1 16-35=2 36-50=1 >50=0	0-5=0 5-10=1 11-20=2 21-30=1 >30=0	0-10=1 11-25=2 21-35=1 >30=0	0-2=1 3-5=2 6-10=1 >10=0	0-2=2 3-5=1 >5=0				
Moose	640 or 260 HA.	0=2 1-5=1 >5=0	0=1 1-10=2 11-20=1 >20=0	0-5=1 6-10=2 11-15=1 >15=0	0-10=0 11-25=1 25-40=2 41-60=1 >60=0	0-20=0 21-35=1 36-65=2 65-80=1 >80=0	0=0 1-5=1 6-10=2 11-20=1 >20=0	0=0 1-5=1 6-20=2 21-35=1 >35=0				
Gray Squirrel	10 or 4 HA.	0-15=2 16-25=1 >25=0	0=2 1-5=1 >5=0	0-1=2 1-5=1 >5=0	0-50=0 51-75=1 76-100=2	0-5=2 6-10=1 >10=0	0=2 1-5=1 >5=0	0-1=2 >1=0				
Woodcock	50 or 40 HA.	0-5=2 6-15=1 >15=0	0=0 1-4=1 5-10=2 11-20=1 >20=0	0-5=0 6-10=1 11-20=2 21-30=1 >30=0	0-25=0 26-50=1 51-75=2 76-100=1	0-15=2 16-25=1 >25=0	0-2=2 3-5=1 >5=0	0=2 >1=0				
General Grassland	5 acres											
General Upland Wildlife Plan	10 or 4 HA.	0-4=1 5-15=2 16-25=1 >25=0	0-4=0 5-9=1 10-25=2 26-35=1 >35=0	0-5=0 6-10=1 11-15=2 16-20=1 >20=0	0-10=0 11-25=1 26-50=2 51-75=1 >75=0	0=0 1-10=1 11-35=2 36-50=1 >50=0	0-2=1 3-5=2 6-10=1 >10=0	0=0 1-2=1 3-5=2 6-10=1 >10=0				

1/ The score (Column 1) based on percent composition does not include consideration of the condition or distribution of habitat elements. The Diversity Index factor DI (Column 3) must be added to the score from Column 1.

The condition of habitat element is a judgment factor until other criteria becomes available. If the condition of a critical or significant habitat element is noticeably bad (i.e. cropland with soil loss exceeding 3T, human disturbances, low plant diversity, grazed woodlot, etc.) lower the final rating at least one condition (i.e., fair to poor).

If the final rating is different from that indicated by the total score, explain why below:

Notes: \_\_\_\_\_

### Diversity-Distribution of Habitat Elements

Diversity Indices (DI) are used to assess diversity and distribution of habitat elements. A Diversity Index also helps to measure the value of the important “edge effect” between habitat elements.

The following simple formula is to be used to account for habitat diversity, distribution of elements, and quality of edge effect.

$$(DI) \text{ Diversity Index} = \frac{\sum (Q L)}{2 \sqrt{A\pi}}$$

### Definition of DI Equation Variables

Q = Quality value of edge (see below).

L = The length of edge, perimeter of field, hedgerow, etc., in feet.

A = Total area of land being evaluated as a wildlife resource management system in square feet.  
(Multiply number of acres by 43,560 square feet/acre.)

$\pi$  = pi or 3.14. This is a constant.

$\Sigma$  = sum of all edges(<sup>l</sup>) which have been multiplied by Q.

### Quality (Q) Values

Q is a judgment rating based on the following guidelines.

The Q values range from 0 as the lowest quality to 1 being the highest quality.

Q = 0 edge with little or no value to wildlife or a negative value.

- i.e.
- fence row with little or no vegetation
  - grazed hedge or windrow
  - heavily grazed woodlot adjacent to pasture
  - road with no “edge”
  - “edge” between potato fields and lawn
  - grassed diversion or waterway in a permanent hayfield

Q = .5 Average, unimproved edge in good condition and moderately diversion vegetation, but not under maintenance or management specifically for wildlife.

- i.e.
- unimproved field borders and hedgerows
  - the edge between distinctly different forest types

Q = 1.0 Improved edge by management or maintenance to improve habitat. May also be good unintentionally --and rated objectively.

- i.e.
- selectively cut back borders, improved on plan rows with three or more woody abundant plant especially valued by wildlife

Q values of .25 and .75 may be used if quality is not clearly, 0 to 1.0.

EVALUATION PROCEDURES FOR DIVERSITY AND INTERSPERSION

Quality Weighted Diversity Index (DI)

1. Measure (L) the length of edge between habitat elements, field borders cropping patterns, distinct forest types, hedgerows, etc. Use of a wheel map measure.
2. Assign a (Q) quality value to each distinctly different section of edge.
3. Multiply Q and the length of edge for each edge (Q.L).
4. Add  $\Sigma(Q.L)$  all the edge values together.
5. Convert area being evaluated from acres to square feet.
6. Divide the total edge values by the following:  $2 \sqrt{\text{Area} \times 3.14}$ . The results is DI. Use a calculator.
7. Rate the diversity and distribution of habitat elements according to the following:

<u>If the DI equals:</u>		<u>then the diversity rating factor is:</u>
> 1.75	More ↑ Diverse	+3 (excellent)
1.51 – 1.74		+2 (very good)
1.26 – 1.50		+1 (good)
1.01 – 1.25		0 (fair)
0.76 – 1.0	Less ↓ Diverse	-1 (poor)
0.50 – 0.75		-2 (very poor)
<0.50		-3 (extremely low diversity)

Record the Rating Factor on Worksheet #2 in column 3. This number is added to the composition rating in column 1 only when this system is used to compare land use changes and project type activities and not in general conservation planning activities. If the diversity rating is <1, then practices planned and applied will need to be evaluated that change the diversity and interspersion rating to >1.

## Conservation Reserve Program Supplemental Worksheet

The following criteria only applies to the Conservation Reserve Program (CRP) in Maine for CRP-1, 2, 4D, and 10. Use the following criteria to rate the applicability of the established CRP acreage to the reporting of Code645 for Upland Wildlife Habitat Management. There are two options. Option one evaluates only the CRP enrolled area. Option two evaluates the whole land unit and incorporates the CRP into the complete Upland Wildlife Habitat Management evaluation for Practice Code645 (allows a higher acreage to report, if qualified). See the complete Standard & Specification and appropriate worksheets for details for using option two.

### Option One:

#### Factor A (Size of Unit) Points

Less than five acres	= 4 points	Generally, the larger the contiguous area the more valuable for grassland
5 to 10 acres	= 8 points	birds of special concern in Maine.
Over 10 acres	= 12 points	

#### Factor B (National CRP Ranking) used as a multiplier

Rank is less than 40	= 0
Ranks is 40	= 1
Rank is 50	= 2

#### Factor C (Subjective Quality) Points

This factor is basically a judgement call. Use the following only as examples of the conditions which relate to factors that may be positive, negative or neutral in the effect on the CRP area. Point will add, subtract or make no change to above scores. If more than one factor or condition applies, decide on one based on predominance.

Point Scale to use: -10 to +10 (-10, thru +10 in even point increments).

The lowest level would be acres in CRP that are surrounded by potato fields (influenced by pesticide drift, traffic from operations, etc.). For example a -5 would be appropriate if the CRP had 50% of it's border with field sprayed by pesticides, etc.

The "0" or neutral level would have no obvious negative effects of adjacent land use or other perceived disturbances which may affect habitat value to grassland birds. In addition, there are no specific land or water uses that enhance the grassland bird value or the CRP acreage.

The Highest level (+10) would be CRP acreage that is surrounded by land and or water that is managed specifically to enhance the grassland bird habitat values of the area. This may be rare, however, intermittent points will be commonly used. For example, if the CRP acreage (NW) is bordered by herbaceous natural wetland (W) on 50% of the area, the +5 points may be justified, etc.

Document your detailed rationale for Factor C.

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Ranking: (Factor A) X (Factor B) + (Factor C) = Total Score, \_\_\_\_ X \_\_\_\_ + \_\_\_\_ = \_\_\_\_

1-3 = Poor, 4-7=fair, 8-11 = good, 12+=excellent. Report Code 645 only for CRP acres that rank good or excellent.

All CRP areas may not be "reportable". It may be possible to plan and apply practices that affect Factor C and change the final ranking to be "good" or "excellent".

## **WHIP – Grassland Bird Habitat – Aroostook County – Supplemental Worksheet**

The following criteria only applies to WHIP in Aroostook County, Maine. Use the following criteria to rate the applicability of the established WHIP Grassland acreage specific to “special concern species” of grassland birds to the reporting of Code 645 for Upland Wildlife Management. There are two options. Option one evaluates only the WHIP contract area. Option two evaluates the whole land unit and incorporates the WHIP into the complete Upland Wildlife Habitat Management evaluation for Practice Code 645 (allows a higher acreage to report, if qualified). See the complete Standard and Specification and appropriate worksheets for details for using option two.

**IMPORTANT: THIS PRACTICE AND STANDARD ARE NOT TO BE USED TO REPLACE NATIVE WOODY VEGETATION WITH GRASSLAND WHICH IS DETRIMENTAL TO OTHER WILDLIFE. THIS PRACTICE IS USED TO CREATE OR IMPROVE HABITAT ON EXISTING GRASSLAND OR CROPLAND.**

**MOWING OR OTHER REMOVAL OF VEGETATION WILL BE LIMITED TO WOODY VEGETATION WITH A GROUND STEM DIAMETER OF ½ INCH OR LESS OR REMOVAL OF “NON-NATIVE PLANTS CONSIDERED MOST INVASIVE IN MAINE” (Technical Guide Reference File: PM-Native Plants).**

Option One:

### Factor A (Size of Unit) Points

Less than five acres	= 4 points	Generally, the larger the contiguous area the more valuable for grassland birds of special concern in Maine.
5 to 10 acres	= 8 points	
Over 10 acres	= 12 points	

### Factor B (National CRP Ranking) used as multiplier

Three native grass/herbaceous species or less beneficial to special concern grassland birds  
= 0

Four or Five grass/herbaceous species beneficial to special concern grassland birds  
= 1

Six or more grass/herbaceous species beneficial to special concern grassland birds  
= 2

### Factor C (Subjective Quality) Points

This factor is basically a judgment call. Use the following only as examples of the conditions, which relate to factors that may be positive, negative or neutral in the effect on the WHIP area. Point will add, subtract or make no change to above scores. If more than one factor or condition applies, decide on one based on predominance.

Point Scale to use: -10 to +10 (-10, through +10 in even point increments).

The lowest level would be acres in WHIP that are surrounded by potato fields (influenced by pesticide drift, traffic from operations, etc.). For example a -5 would be appropriate if the WHIP had 50% of its border with field sprayed by pesticides, etc.

The "0" or neutral level would have no obvious negative effects of adjacent land use or other perceived disturbances which may affect habitat value to grassland birds species of concern. In addition, there are no specific land or water uses that enhance the grassland bird value or the WHIP acreage.

The Highest level (+10) would be WHIP acreage that is surrounded by land and or water that is managed specifically to enhance the grassland bird habitat values of the area. This may be rare, however, intermittent points will be commonly used. For example, if the WHIP acreage (NW) is bordered by herbaceous natural wetland (W) on 50% of the area, the +5 points may be justified, etc.

Document your detailed rationale for Factor C:

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Ranking: (Factor A) X (Factor B) + (Factor C) = Total Score, \_\_\_\_\_ X \_\_\_\_\_ + = \_\_\_\_\_  
1-3= Poor, 4-7=Fair, 8-11=good, 12+=excellent. Report Code 645 only for WHIP acres that rank good or excellent.

All WHIP areas MUST be "reportable". It will be necessary to plan and apply practices that affect Factor B or C and change the final ranking to be "good" or "excellent".

**TABLE 1**  
**CONSERVATION PRACTICES BENEFICIAL FOR PRODUCING AND MAINTAINING**  
**WILDLIFE HABITAT ELEMENTS**

Code	Practice	Grain and Seed Crops	Grasses and Legumes	Wild Herbaceous Upland Plants	Deciduous Trees, Shrubs, and Vines	Coniferous Woody Plants	Wetland Plants	Shallow Water Areas
560	Access Road		X					
314	Brush Management		X	X				
328	Conservation Crop Rotation	X	X					
329	Conservation Tillage System	X						
332	Contour Buffer Strips		X					
340	Cover Crop		X					
342	Critical Area Planting		X		X	X		
349	Dam, Multiple Purpose		X				X	X
356	Dike		X				X	X
362	Diversion		X					
647	Early Successional Habitat Development			X				
380	Farmstead and Feedlot Windbreak				X	X		
386	Field Border		X		X	X		
392	Field Windbreaks				X	X		
393	Filter Strip		X					
394	Firebreak (vegetated)		X					
655	Forest Trails & Landings		X					
412	Grassed Waterway		X					
422	Hedgerow Planting				X	X		
436	Irrigation Storage Reservoir						X	X
512	Pasture and Hayland Planting		X					
378	Pond						X	X
338	Prescribed Burning	X	X	X	X		X	
568	Recreation Trail and Walkway		X					
391	Riparian Forest Buffer				X	X		
350	Sediment Basin						X	X
574	Spring Development							X
395	Stream Habitat Management & Improvement		X	X	X	X		
586	Stripcropping, Field	X	X					
587	Structure for Water Control						X	X
612	Tree & Shrub Establishment				X	X		
472	Use Exclusion			X	X	X	X	
359	Waste Treatment Lagoon						X	X
657	Wetland Restoration						X	X
645	Wildlife Upland Habitat Management	X	X	X	X	X		
644	Wildlife Wetland Habitat Management	X	X				X	X
380	Windbreak/Shelterbelt Establishment				X	X		
666	Woodland Stand Improvement				X	X		

**TABLE 2**  
**HABITAT ELEMENTS REQUIRED IN MAINE**

Rating Legend:      IMPORTANCE                      SEASON USED                      ELEMENT PROVIDES\*  
                                  A-Essential                                      1-Spring                                      F-Food  
                                  B-Desirable                                      2-Summer                                      S-Shelter  
                                  C-Utilized                                        3-Fall  
                                  D-Not Significantly Utilized                      4-Winter

Wildlife	Grain & Seed	Grasses & Legumes	Deciduous Plants	Coniferous Plants	Dryland Herb.	Wetland Plants
BEAR	C 2 F	B 1, 2F	A 1-3 F* B 1-4 S	C 1-3 F* C 1-4 S	B 1 2 F	C 2 F
BEAVER	D	D	A 1-4 F, S	D	D	B 1-4 F, S
DEER	C 2, 3 F	B 1-3 F	A 1-4 F B 1-3 S	A 4 F, S	A 1-3 F	D
DOVE	A 1-3 F	C 1-3 F	A 1-3 S	C 1, 2 S	A 1-3 F	D
DUCKS	C 1-3 F	B 1, 2 S	B 1-3 F, S	C 1, 2 S	B 1,2 S	A 1-3 F, S
FOX (RED) *	C 2, 3 F	B 1-4 F	B 1-4 F, S	B 1-4 F, S	B 1-4 F	C 1-3 F
GEESE	B 1,3 F	B 1-3 F	C 1 S	D	C 1 2 F, S	A 1-3 F, S
GROUSE (RUFFED)	D	B 1-3 F	A 1, 3, 4, F A 1-4 S	C 4 S	A 1-3 F, S	D
HARE	D	C 1-3 F	A 1-4 F C 1-3 S	B 1-4 F A 4 S	B 1, 2 F	D
MOOSE	D	C 1-3 F	A 1-4 F	B 1-4 S B 4 F	B 1-3 F	B 2, 3 F
MUSKRAT	D	D	D	D	C 1-3 F	A 1-4 F, S
PHEASANT	A 2-4 F	B 1, 2 F	A 3, 4 S	C 4 S	A 1-4 F	C 3-4 F, S
RACCOON	B 2-3 F	D	A 1-4 S A 1-3 F	C 1-4 S	C 1-3 F	B 1-3 F*
SQUIRREL (GREY)	C 2, 3 F	D	A 1-4 F, S	D	C 2, 3 F	D
WOODCHUCK	C 1-3 F	A 1-4 S A 1-3 F	C 1-4 S	D	C 1-3 F C 1-4 S	D
WOODCOCK	D	C 1-3 S	A 1-3 F, S	D 3 S	B 1-3 S	D
SONGBIRDS**	--	--	--	--	--	--
BIRDS OF PREY**	---	---	---	---	--	
WILD TURKEY	A3, 4, F	B 1,2F	A 1-4 FS	B 4 S	A 1-4 F	D 1-3, 4-F
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\* Because of the diversity of habitat requirements for species of songbirds & birds of prey, a qualified specialist & the literature should be consulted for management details for species or groups of species.

\*\* Habitat elements provide food for some species of wildlife by providing habitat for prey animals & insects. Shelter is provided for nesting, resting, escape, etc.