U.S. Fish and Wildlife Service

HAPET Habitat And Population Evaluation Team

Fact Sheet

Grassland Bird Conservation Areas – GBCAs

The Bird Conservation Area concept was developed by Partner's in Flight as a model for prioritizing conservation areas for declining bird species. GBCAs were designed for grassland nesting birds and based on the following assumptions: 1) larger patches are better due to an inherent preference for larger patches by some grassland birds (a.k.a., area sensitivity), 2) patches with minimal edge (round or square shapes) are better due to fewer edges that may harbor predators, 3) trees are a hostile habitat for grassland nesting birds because they provide habitat and a travel corridor for mammalian predators and perches for avian predators, 4) productivity within a patch depends on habitat (compatible, neutral, hostile) in the surrounding landscape.

A GBCA was originally defined as an 800 ha (2000 ac) grassland core surrounded by a 4,000 ha (10,000 ac) area that contained at least 20% grassland. Since most of the tallgrass prairie has already been extensively fragmented, and recovery is usually in small patches, this definition a GBCA was too restrictive to be useful throughout most of the tallgrass prairie region. Grassland bird experts of the Prairie Pothole Region agreed that using a tiered approach would be more productive. It was assumed that the needs of the most sensitive species could be met by the largest (Type 1) GBCAs, while birds with fewer restrictions could thrive in smaller grass patches (Types 2 and 3).

All GBCAs consist of a grassland core with a surrounding 1-mile wide matrix (see figure). Core areas are at least 95% grassland (or compatible wetland types - see table), at least 50 m from trees and other hostile habitats, and may contain up to 30% wetland habitat. Each GBCA type is differentiated on the basis of size, width, amount of grass in the landscape, and the types of wetlands considered compatible (e.g., temporary wetlands are considered compatible for all GBCA types because they are typically dry for much of the nesting season).

Type 1 – core of at least 640 acres of grassland at least 1 mile wide. Matrix and core combined are at least 40% grassland.
Type 2 – core of at least 160 acres of grassland at least ½ mile wide. Matrix and core combined are at least 30% grassland.
Type 3 – core of at least 55 acres of grassland at least ¼ mile wide. Matrix and core combined are at least 20% grassland.

Landsat Thematic Mapper imagery and National Wetlands Inventory data were used to delineate GBCAs. The following table describes how landuse type and wetlands were categorized for each GBCA type.

Landuse	Type 1	Type 2	Type 3
Grassland	C	C	C
Hayland	N	N	N
Cropland	N	N	N
Barren	N	N	N
Scrub/shrub	H	H	H
Urban/developed	H	H	H
Trees	H	H	H
Wetland			
Temporary	C	C	C
Saturated	C	C	C
Seasonal	C	C	<30%
Semipermanent	<30%	<30%	<30%
Permanent	<30%	<30%	<30%
Forested	H	H	H
Scrub/shrub	H	H	H

C = compatible, N = neutral, H = hostile (requires ≥50 m buffer)