



BENT'S OLD FORT

Birds 2009

Importance

The National Park Service's mission is to manage park resources "unimpaired for future generations." Protecting and managing some of our nation's most significant natural resources requires basic knowledge of the condition of ecosystems and species that occur in national parks. Landbirds are a conspicuous component of many ecosystems and have high body temperatures, rapid metabolisms, and occupy high trophic levels. As such, changes in landbird populations may be indicators of changes in the biotic or abiotic components of the environment upon which they depend. Relative to other vertebrates, landbirds are also highly detectable and can be efficiently surveyed with the use of numerous standardized methods.

RESOURCE BRIEF



Western Meadowlark

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Status and Trends

With the exception of some pilot efforts at PECO in 2008, SOPN began monitoring birds in 2009. This effort is part of a collaboration among the Southern Plains, Sonoran Desert, and Chihuahuan Desert Networks. The overall goal of our bird monitoring program is to detect biologically significant changes in population parameters over time. Details of our approach can be found in Powell et al. 2010. At BEOL, we surveyed each of 5 transects (Fig. 1) two times during the breeding season (Table 1). The specific objectives of our efforts are:

1. To estimate the proportion of sites occupied for most species in most parks. Occupancy is a measure of presence or absence of a species in space that, when evaluated across time, indicates changes in the distribution of a species.
2. To estimate parameters related to community dynamics, particularly species richness and species composition. Monitoring the richness and composition of native communities can provide valuable insights about changes in the overall health of the system of concern.
3. To estimate density of the most-common species.

It is important to note that our objectives focus on long-term changes and trends, which requires a minimum number of years before meaningful estimates related to trend are feasible. Consequently, it is neither practical or feasible to conduct comprehensive analyses for each objective on an annual basis.

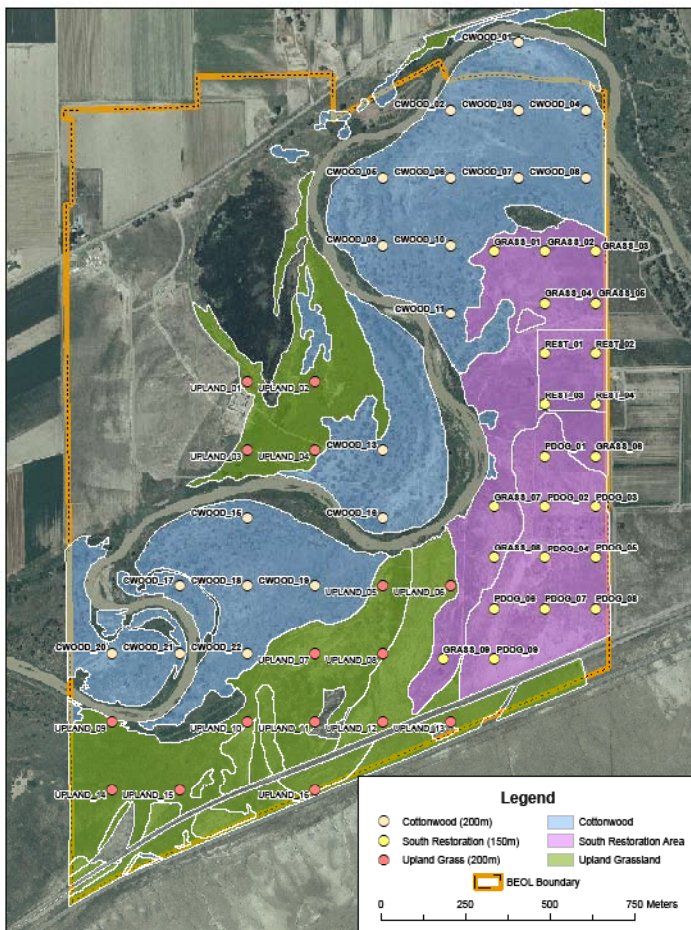


Figure 1. Bird sampling locations at Bent's Old Fort National Historic Site



For annual resource briefs, such as this one, will provide a basic data summary. At a more reasonable frequency of every 5 years, we will provide a comprehensive synthesis report that will go into much greater depth, including analyses for all objectives and interpretations that consider our results in broader ecological context.

During our 2009 surveys, we had 1781 detections of birds of 53 species. Mourning doves and European starlings were the most commonly detected species, with Meadowlarks and Red-winged Blackbirds also observed in high abundance.

Table 1. Sampling dates at Bent's Old Fort NHS

Location Name	Visit 1	Visit 2
CWOOD	6/16/2009	6/23/2009
GRASS	6/15/2009	6/22/2009
PDOG	6/15/2009	6/22/2009
REST	6/14/2009	6/21/2009
UPLAND	6/16/2009	6/23/2009

Table 2. The bird species, species ID Code, and number of detections of birds during the 2009 survey at Bent's Old Fort National Historic Site.

Species	Species Code	No. Detections	Species	Species Code	No. Detections
American Goldfinch	AMGO	2	Indigo Bunting	INBU	1
American Kestrel	AMKE	39	Killdeer	KILL	8
American Robin	AMRO	35	Lark Sparrow	LASP	4
Barn Swallow	BARS	37	Lazuli Bunting	LAZB	1
Brown-Headed Cowbird	BHCO	25	Ladder-Backed Woodpecker	LBWO	1
Black-Headed Grosbeak	BHGR	18	Mallard	MALL	2
Blue Grosbeak	BLGR	64	Mourning Dove	MODO	253
Blue Jay	BLJA	23	Northern Bobwhite	NOBO	16
Brown Thrasher	BRTN	16	Northern Flicker	NOFL	32
Bullock's Oriole	BUOR	45	Northern Mockingbird	NOMO	51
Burrowing Owl	BUOW	2	Orchard Oriole	OROR	3
Cassin's Sparrow	CASP	23	Prairie Falcon	PRFA	1
Chipping Sparrow	CHSP	2	Red-Headed Woodpecker	RHWO	14
Cliff Swallow	CLSW	21	Ring-Necked Pheasant	RNEP	41
Common Grackle	COGR	29	Red-Winged Blackbird	RWBL	193
Common Nighthawk	CONI	9	Say's Phoebe	SAPH	6
Common Yellowthroat	COYE	43	Warbling Vireo	WAVI	6
Downy Woodpecker	DOWO	7	White-Breasted Nuthatch	WBNU	4
Eastern Kingbird	EAKI	47	Western Kingbird	WEKI	43
Eurasian Colored-Dove	EUCD	15	Western Meadowlark	WEME	179
European Starling	EUST	225	Western Wood-Pewee	WEWP	1
Great Blue Heron	GBHE	1	Willow Flycatcher	WIFL	1
Great Crested Flycatcher	GCFL	13	Wild Turkey	WITU	1
Great Horned Owl	GHOW	16	Yellow-Breasted Chat	YBCH	27
Horned Lark	HOLA	1	Yellow-Billed Cuckoo	YBCU	15
House Sparrow	HOSP	7	Yellow Warbler	YWAR	40
House Wren	HOWR	72	Total		1781