

## Birds

## RESOURCE BRIEF

### 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.

### 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 LYJO, we



Cliff Swallow

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surveyed each of 2 transects (Fig2. 1 and 2) 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 com-

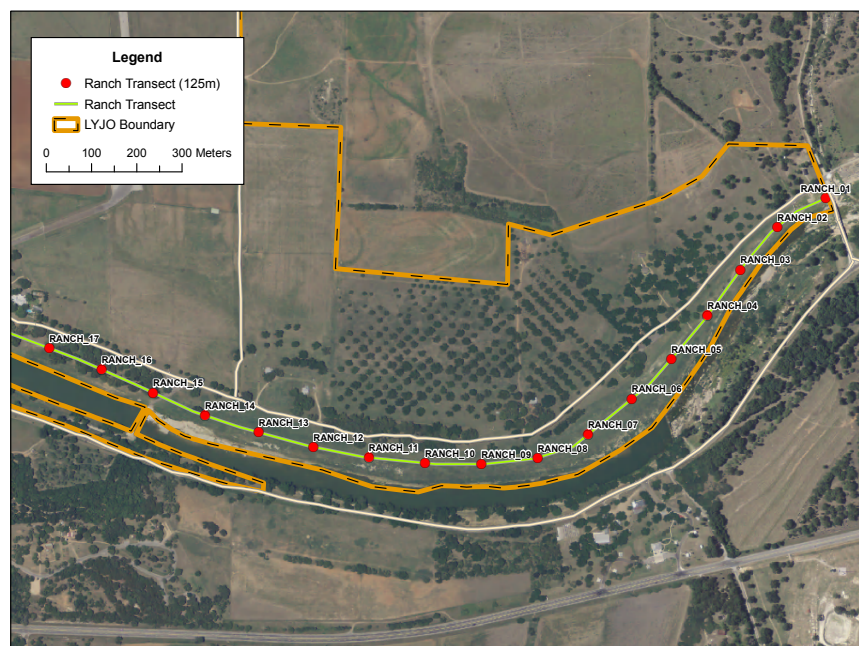


Figure 1. Bird sampling locations at Lyndon B. Johnson NHP (Ranch Unit)

Table 1. Sampling dates at Lyndon B. Johnson NHP

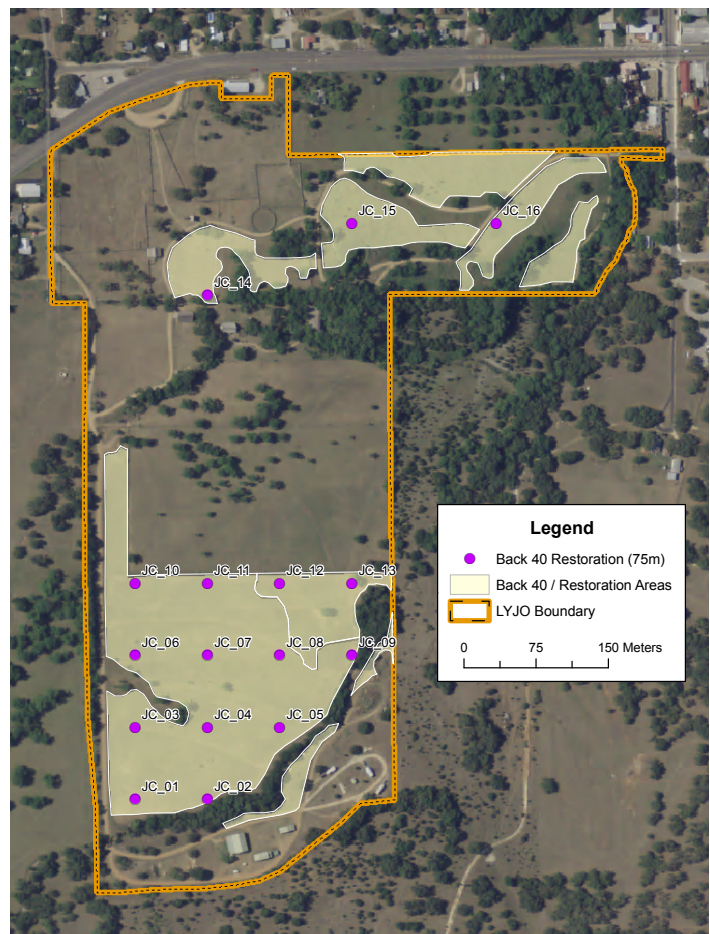
| Location Name | Visit 1  | Visit 2   |
|---------------|----------|-----------|
| JC            | 5/9/2009 | 5/11/2009 |
| RANCH         | 5/8/2009 | 5/10/2009 |



**Table 2. The bird species, species ID Code, and number of detections of birds during the 2009 survey at Lyndon B. Johnson National Historical Park.**

| Species                  | Species Code | No. Detections |
|--------------------------|--------------|----------------|
| American Crow            | AMCR         | 1              |
| American Robin           | AMRO         | 3              |
| Barn Swallow             | BARS         | 11             |
| Black-Crested Titmouse   | BCTI         | 38             |
| Bewick's Wren            | BEWR         | 6              |
| Brown-Headed Cowbird     | BHCO         | 12             |
| Blue Jay                 | BLJA         | 3              |
| Black Vulture            | BLVU         | 35             |
| Bullock's Oriole         | BUOR         | 5              |
| Carolina Chickadee       | CACH         | 2              |
| Cattle Egret             | CAEG         | 10             |
| Carolina Wren            | CARW         | 7              |
| Chimney Swift            | CHSW         | 4              |
| Cliff Swallow            | CLSW         | 59             |
| Common Grackle           | COGR         | 6              |
| Cooper's Hawk            | COHA         | 1              |
| Crested Caracara         | CRCA         | 3              |
| Double-Crested Cormorant | DCCO         | 3              |
| Eastern Bluebird         | EABL         | 3              |
| Eastern Phoebe           | EAPH         | 4              |
| Eurasian Collared-Dove   | ECDO         | 1              |
| Great Blue Heron         | GBHE         | 1              |
| Great Crested Flycatcher | GCFL         | 5              |
| Green Heron              | GRHE         | 2              |
| Great-Tailed Grackle     | GTGR         | 8              |
| Lark Sparrow             | LASP         | 1              |
| Ladder-Backed Woodpecker | LBWO         | 1              |
| Mississippi Kite         | MIKI         | 1              |
| Mourning Dove            | MODO         | 14             |
| Northern Cardinal        | NOCA         | 70             |
| Northern Flicker         | NOFL         | 1              |

| Species                   | Species Code | No. Detections |
|---------------------------|--------------|----------------|
| Norther Mockingbird       | NOMO         | 13             |
| Orchard Oriole            | OROR         | 1              |
| Red-Tailed Hawk           | RTHA         | 2              |
| Scissor-Tailed Flycatcher | STFL         | 29             |
| Summer Tanager            | SUTA         | 6              |
| Turkey Vulture            | TUVU         | 20             |
| Wild Turkey               | WITU         | 3              |
| White-Winged Dove         | WWDO         | 7              |
| Yellow-Billed Cuckoo      | YBCU         | 1              |
|                           | Total        | 403            |



Bird sampling plocations at Lyndon B. Johnson NHP (Johnson City Unit)

ecological context.

During our 2009 surveys, we had 403 detections of birds of 40 species. Northern Cardinals were the most commonly detected species.

prehensive analyses for each objective on an annual basis. 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