



Breeding Landbird Monitoring Program Summary

Network Parks Where Monitoring Occurs

Jean Lafitte National Historical Park and Preserve (JELA), Gulf Islands National Seashore (GUIS), San Antonio Missions National Historical Park (SAAN), Palo Alto Battlefield National Historical Park (PAAL), Vicksburg National Military Park (VICK) and Big Thicket National Preserve (BITH).

Importance

The Gulf Coast is a major flyway, breeding area and over-wintering area for many North American birds. This high avian diversity is an important attraction for visitors to the region's national parks. As landscapes change and climate patterns shift, however, bird populations may be threatened. The Gulf Coast Network is monitoring breeding landbirds because they (1) are potential indicators of the effects of local and regional changes in ecosystems, (2) come under the legal mandate related to the Endangered Species Act and Migratory Bird Treaty Act; (3) are specifically identified in the management objectives of some of the parks; and (4) are well studied, such that Gulf Coast Network data can be compared to regional and national datasets.

Monitoring Objectives

1. Determine the composition of native and non-native landbird communities that are detectable using point count methodologies during the breeding season at Gulf Coast Network parks.
2. Determine occupancy and the relative abundance of all species (per monitoring point) and the density of each park's commonly detected species (per hectare). A species is considered commonly detected if it is recorded more than 40 times per year for at least three years.
3. Determine long-term trends in occupancy and relative abundance or density of the commonly detected species at each park.



Yellow-throated warblers have been recorded during points counts at Jean Lafitte NHP&P and Big Thicket National Preserve. Photo by Jane Carlson/NPS.



The Scissor-tailed Flycatcher has been recorded during Gulf Coast Network point counts at both Palo Alto Battlefield and San Antonio Missions National Historical Parks. Photo by Billy Finney/NPS.

Basic Approach

The Gulf Coast Network conducts bird-survey point counts using standard point count observation methods. An observer navigates to the point count location by GPS, and over a 10-minute period, they record the number of individuals seen or heard of each bird species. The observer also records the distance band of each bird from the observer's location and the minute the bird was first detected. Each individual is counted only once during the 10-minute period. This approach parallels the methods used by several other I&M networks as well as the U.S. Fish and Wildlife Service, which allows for broader-scale comparisons. Each point is sampled twice per year over a 2-10 day period, during the breeding season of most landbirds (May and June). The same point locations are visited every year, and these points were selected as a random draw from within entire parks or focal park units. Project findings are presented once every 3 years as Status and Trends Reports. Additional information, including links to all reports, can be found at <https://www.nps.gov/im/guln/landbirds.htm>



The geographic range of the Green Jay includes Central and South America, as well as southernmost Texas. This species has been recorded during point counts at Palo Alto Battlefield NHP. Photo by Billy Finney/NPS.

Focal Taxa

- This protocol focuses on landbirds, which are defined as the songbird order (Passeriformes) plus the ecologically-similar near-passerine orders of pigeons and doves, parrots, cuckoos, nightjars, kingfishers, woodpeckers, hummingbirds and swifts. The members of this group are well-suited to monitoring through the chosen techniques, and they also include many of the charismatic species commonly sought by park visitors
- Although both resident and migratory landbird species are highly ranked vital signs for the network, only resident, breeding landbirds are monitored through this protocol. This is accomplished by sampling parks only during May and June. Breeding landbirds are targeted because they likely rely on park habitats more heavily than do most migratory species.
- The protocol is designed for breeding landbirds, and it is most effective for tracking change in the more common ones. Even so, all bird species are recorded when present during a monitoring event, allowing for species list additions and other useful data.



Left: A redwing blackbird, one of the most common species in several parks. Photo by Chris Adams.

Above: Cliff Swallows, which breed at San Antonio Missions NHP. Photo by Billy Finney/NPS.

About the Gulf Coast Network

In 1999, the National Park Service initiated a long-term ecological monitoring program, known as “Vital Signs Monitoring,” to provide the minimum infrastructure to allow more than 270 national park system units to identify and implement long-term monitoring of their highest-priority measurements of resource condition. The overarching purpose of natural resource monitoring in parks is to develop scientifically sound information on the current status and long-term trends in the composition, structure, and function of park ecosystems, and to determine how well current management practices are sustaining those ecosystems.

The NPS Vital Signs Monitoring Program addresses five goals for all parks with significant natural resources:

1. Determine the status and trends in selected indicators of the condition of park ecosystems,
2. Provide early warning of abnormal conditions,
3. Provide data to better understand the dynamic nature and condition of park ecosystems,

4. Provide data to meet certain legal and congressional mandates, and
5. Provide a means of measuring progress towards performance goals.

Effective long-term management and stewardship of natural resources begins with baseline knowledge of these resources and a scientifically-rigorous understanding of how they change over time. In collaboration with park staff and other stakeholders, the Gulf Coast Network strives to meet this need for the eight parks in its region. The network’s geographic region encompasses portions of Florida, Alabama, and Tennessee, all of Mississippi and Louisiana, and the southeastern quarter of Texas.

For more information

GULN Home Page:

<https://www.nps.gov/im/guln/index.htm>

About the NPS Inventory & Monitoring Division:

<https://www.nps.gov/im/index.htm>

Data Downloads via the Natural Resource Information Portal:

<http://irma.nps.gov>