

## **AUDUBON IMPORTANT BIRD AREAS DATABASE**

### **Introduction**

The Audubon Important Bird Areas Database is a web-based, Oracle relational database, and is the tool used by Audubon's Important Bird Areas Program to manage information and data about sites. The Audubon IBA Database allows for data entry, central storage, and reporting of site based data. It is an important tool that facilitates the process through which sites are initially evaluated for their value to birds and prioritized for conservation action at the state, continental, and global levels. Development of Audubon's IBA Database was spurred by the U.S. IBA program's need for a web-accessible centralized dataset and therefore an efficient process of managing data for all states. Integration of the database with Audubon's public IBA website was another important need.

Prior to development of Audubon's IBA database, U.S. IBA data were entered into the BirdLife International World Bird Database, a distributed Microsoft Access database. Audubon's IBA Database was developed as an answer to challenges in compiling and distributing data that were entered into the BirdLife database. Audubon's centralized system allows for real-time updates of data. The Audubon IBA database provides a more efficient means of data management as well as increased opportunities for data sharing with conservation partners and the public.

### **Rationale and Vision**

Audubon's IBA Database expands the functionality and capacity offered by BirdLife's database and is specifically tailored to the needs of the U.S. IBA Program. The U.S. IBA process is based on local involvement, starting with the identification of sites at the state level, with a goal of engaging local stakeholders, individuals and organizations, in conservation action. The vast network involved in the U.S. IBA Program requires an easily accessible database for storing and tracking details about sites at a fine scale. In addition, the ability to allow multiple users to update the database and see real-time integration with the overall national dataset is critical. Information about sites in the U.S. is compiled by state IBA coordinators and committees, local landowners, managers, organizations, and individuals that know the sites and the birds occurring at the site best.

Planning for the IBA Database involved assessing various database models and determining how the different features could be incorporated to meet the conservation needs of the U.S. IBA Program and its partners. Specifically attributes that were viewed as critical to Audubon's IBA database included: easy access, simple interface, tracking of essential data components, website integration, a variety of output mechanisms, and reporting that would elucidate the conservation issues associated with the sites. Additional considerations included how the database could be integrated with geographic information systems and other mapping tools, as well as existing and conceived bird monitoring applications.

Ultimately, the data entry fields and overall process in Audubon's IBA Database were modeled after those in BirdLife's database and the Canadian IBA database (Bird Studies Canada 2004). Features of *eBird* (Audubon 2006) and Audubon's Christmas Bird Count Database (National Audubon Society 2005) were considered in planning and developing a preliminary monitoring component to the database.

### **Release and Testing**

After several months of planning and development, an alpha version of the Audubon IBA Database was made available for internal testing and demonstration. The alpha period allowed for testing and refinement using representative IBA data. Following this a beta testing phase was initiated allowing for the evaluation of real IBA data input with the application and testing amongst an external to Audubon audience.

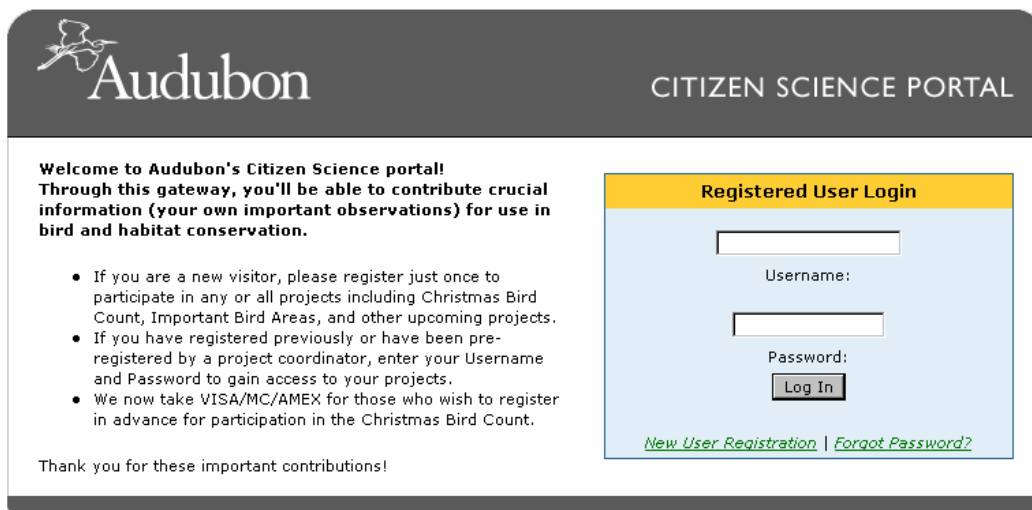
After the alpha and beta testing periods, the Audubon IBA Database was officially introduced, and a preliminary training workshop was offered to IBA staff, other Audubon staff, and partners at the Fourth Annual Important Bird Areas Conference in Sierra Vista, Arizona, a meeting attended by over 125 individuals from the U.S. and 16 countries. Through four sessions of the database training workshop, 35 conference attendees were provided with an orientation to the new application, using a demonstration version of the application to represent the screens and the functionality. The training offered step-by-step instructions for managing state IBA data in the new centralized database and provided a detailed preview of how to work with the database and how to prepare for management of data in a web-based system. In addition, it highlighted the differences between this database and the BirdLife database.

Following this training session, development of the data entry application continued and current IBA data housed in BirdLife's database were mapped and imported into the Audubon IBA database.

The official launch of the Audubon IBA Database involved a series of nationwide conference calls to orient users to the application. All users were requested to verify data accuracy, ensuring that data were transferred from the BirdLife database correctly, in addition to adding and editing data. Following these initial database orientation sessions national IBA staff have worked one-on-one to provide an overview and database training sessions to new users. To date, over 60 users throughout the country, including IBA staff and volunteers, have been trained in the use of Audubon's IBA database.

### Database Structure – Data Entry and Storage


At the time of release, the Audubon IBA Database consisted of the main data entry screens for site information and all of the necessary fields for housing site data. Many of the output and reporting tools were developed subsequent to the release of the Audubon database. With the Audubon IBA Database, site data are viewed, entered, and updated through the web interface (Figure 5). Users log into the database via a web portal, and can then update information for their sites from any location with a connection to the Internet. Users of this administrative portal of the database include IBA Program and other conservation staff and volunteers. Details about sites, species, criteria, land ownership, habitat composition, land use, and threats are all entered through a series of multiple screens (See Appendix B for a description of all fields).



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**Figure 5.** Audubon IBA Database: Citizen Science Portal, Login Screen

Once logged into the database a user is confronted with the location index that displays a summary list of sites for an individual state (Figure 6). From there a user can select a site by clicking on the sites name and is then taken to the site details section, which hosts information about the sites geographic coordinates, area, and associated geographic information (Figure 7). From the species data and criteria screens, users enter descriptive and quantitative information about IBA trigger species (species that meet IBA criteria thresholds) occurring at sites, including dates, numbers observed, seasons, and IBA criteria met by these individual data records (Figures 8, 9, 10, 11). Users enter additional IBA criteria information on the site criteria screen (Figure 12). The site criteria are applied to the entire site in instances where detailed information about bird species presence is not known. In the U.S., the focus is on using species criteria, with the last option being the use of site criteria. Species criteria are emphasized in the U.S. since data are usually known or can be determined. Further conservation planning is limited if specific details about species presence and use of a site are not known. On the ownership, habitat, land use, and threats screens, detailed categorical information, associated percentages or levels, as well as text information are entered to further describe and track conditions at the site (Figures 13, 14, 15, 16, and 17).



# Important Bird Areas

[Location Index](#) | [Glossary](#) | [Exit](#)

csanchez@audubon.org  
Not csanchez@audubon.org?  
[Click Here.](#)

**Current Site:** None selected

- Details
- Species Data & Criteria
- Site Criteria
- Ownership
- Habitat
- Land Use
- Threats
- Monitoring Index
- Site Report
- Users


**Choose a State** (Edit State Data)

Indiana

**Find a Site**

Indiana			
Name	Status	Species Criteria	Site Criteria
American Golden-Plover Staging Grounds	Recognized	no	yes
Bendix Meadows	Recognized	no	yes
Beverly Shores - Indiana Dunes National Lakeshore	Recognized	no	yes
Big Oaks National Wildlife Refuge	Recognized	no	yes
Boot Lake Nature Preserve	Recognized	no	yes
Cane Ridge Wildlife Management Area and Gibson Lake	Recognized	no	yes
Chinook Fish and Wildlife Area and Chinook Mine	Recognized	no	yes
Cowles Bog - Indiana Dunes National Lakeshore	Recognized	no	yes
Crane Naval Surface Warfare Center	Recognized	no	yes
Elkhart River Corridor	Nominated	no	no
Fort Harrison State Park	Recognized	no	yes
Goose Pond/Beehunter Marsh Fish and Wildlife Area	Recognized	no	yes
Heron Rookery - Indiana Dunes National Lakeshore	Nominated	no	yes
Hoosier National Forest (Pleasant Run Unit)	Recognized	no	yes
Indiana Dunes State Park	Recognized	no	yes
Jasper-Pulaski Fish and Wildlife Area and surrounding areas	Recognized	no	yes
Kankakee Sands Project and surrounding natural areas	Recognized	no	yes
Lynnville-Squaw Creek Mine Complex	Recognized	no	yes
Minnehaha Fish and Wildlife Area/Duqer Unit	Recognized	no	yes
Morgan-Monroe State Forest	Potential	no	no
Muscatatuck National Wildlife Refuge	Recognized	no	yes

Figure 6. Audubon IBA Database: Location Index Screen



# Important Bird Areas

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**Current Site:** American Golden-Plover Staging Grounds, US-IN

- Details
- Species Data & Criteria
- Site Criteria
- Ownership
- Habitat
- Land Use
- Threats
- Monitoring Index
- Site Report
- Users

**Edit Details:**  
American Golden-Plover Staging Grounds

Status: Recognized  
State: US-IN  
Decimal Degrees: 40.6695 X -87.2967

Record created by:  
Record created on: 01/05/2006  
Last edited on: 06/27/2006

**(\*) Required fields** ? Glossary of terms

\*Site Name

Status  IBA Code  Make Site Public  ?

IBA Zip/Postal Code  State US-IN Country US

\*Enter Central Coordinates as Decimal Degrees

N /  W [Convert data from deg/min/sec](#)

Area (hectares = acres x 0.4047)	Elevation in Meters (meters = feet x 0.3048)		
Area in Hectares	Minimum	Maximum	Average
<input type="text" value="4662.0"/>	<input type="text" value="0.0"/>	<input type="text" value="0.0"/>	<input type="text" value="0.0"/>
Area Accuracy <input type="text" value="Medium"/> ?	<a href="#">Convert data from feet</a>		

[Convert data from acres](#)

Figure 7. Audubon IBA Database: Site Details

Species Data & Criteria **(\*) Required fields** [Glossary of terms](#)

Site Criteria **Species in the Checklist** [Add New Species \(Single Selection\)](#)

Ownership There are **1** species in the checklist.  
Click on the species name to view/add/edit species records or criteria.

Habitat Sort Order:  Alphabetical  Taxonomic

Species Common Name	# of Data Records
American Golden-Plover.....	3

**Ornithological Significance, Brief (to be displayed on public Web site)**

2000-character limit  
1132 character(s) remaining.

Research performed by Purdue University in 1998 found that perhaps anywhere from 42,000 to 84,000 American Golden-Plover visited the adjacent landscapes of Benton and White

**Ornithological Significance, Expanded (to be displayed on reports)**

5000-character limit  
4132 character(s) remaining.

Research performed by Purdue University in 1998 found that perhaps anywhere from 42,000 to 84,000 American Golden-Plover visited the adjacent landscapes of Benton and White counties during that spring. Furthermore, over a seven year period, the Sycamore Audubon Society of Lafayette, Indiana, surveyed golden-plover populations with single-day

Figure 8. Audubon IBA Database: Multiple Species Overview Screen

Grounds, US-IN Decimal Degrees: 40.6695 X -87.2967 Last edited on: 06/27/200

Details

Species Data & Criteria **Existing Species Data: American Golden-Plover**

Site Criteria

Ownership

Habitat

Land Use

Threats

Monitoring Index

Site Report

Users

**Observations:**  
Click Date to View/Edit Species Record. [Add Species Data Record](#)

Date	Season Status	# Observed	Units	Density (#/km2)
<a href="#">1986</a>	passage	5785	Individuals	
<a href="#">1984</a>	passage	5551	Individuals	
<a href="#">1982</a>	passage	5785	Individuals	

[Add Species Data Record](#)

**Criteria:**  
Click Date to Add/Edit Species Criteria.

Date	Species Criteria Proposed ?	Species Criteria Confirmed ?
<a href="#">1986</a>	[B1] Continental Species of Conservation Concern [B4i] >1% flyway/subsp. waterbird pop. simultaneously; 5% over season [D1] State Species of Conservation Concern [D4i] >1% State population	
<a href="#">1984</a>	[B1] Continental Species of Conservation Concern [B4i] >1% flyway/subsp. waterbird pop. simultaneously; 5% over season [D1] State Species of Conservation Concern [D4i] >1% State population	
<a href="#">1982</a>	[B1] Continental Species of Conservation Concern [B4i] >1% flyway/subsp. waterbird pop. simultaneously; 5% over season [D1] State Species of Conservation Concern [D4i] >1% State population	

Figure 9. Audubon IBA Database: Single Species Data Overview Screen

Status: Recognized  
 State: US-IN  
 Decimal Degrees: 40.6695 X -87.2967

Record created on: 01/05/2006  
 Last edited on: 06/27/2006

(\*) Required fields      ? Glossary of terms

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**Species Record: American Golden-Plover**

\*Date         Seasonal/Daily

Only Year is required.  
 Day and Month are optional values.

*Season Status ?	Number Observed ?	Density (#/km <sup>2</sup> )	*Units ?
<input type="text" value="passage"/>	<input type="text" value="5785"/>	<input type="text" value="0.0"/>	<input type="text" value="Individuals"/>

Relative Abundance ?	Order of Magnitude (Individuals)	Data Quality ?	Derivation ?	Occurrence Status ?
<input type="text" value="abundant"/>	<input type="text" value="2,500-9,999"/>	<input type="text" value="good"/>	<input type="text" value="estimated (directly)"/>	<input type="text" value="Native"/>

**Sources**

500-character limit,  
 364 character(s) remaining.

Erickson, H.T. Spring Migration of Lesser Golden-Plovers in Benton County, Indiana. Indiana Audubon Quarterly Vol 70 (2), pages 87-91.

Figure 10. Audubon IBA Database: Species Record Screen

**Observation Date Record American Golden-Plover**

Observation Date	Species Criteria Proposed	Species Criteria Confirmed
>> 1986	B1 - Continental Species of Conservation Concern B4i - >1% flyway/subsp. waterbird pop. simultaneously; 5% over season D1 - State Species of Conservation Concern D4i - >1% State population	
<u>1984</u>	B1 - Continental Species of Conservation Concern B4i - >1% flyway/subsp. waterbird pop. simultaneously; 5% over season D1 - State Species of Conservation Concern D4i - >1% State population	
<u>1982</u>	B1 - Continental Species of Conservation Concern B4i - >1% flyway/subsp. waterbird pop. simultaneously; 5% over season D1 - State Species of Conservation Concern D4i - >1% State population	

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**Species Criteria American Golden-Plover**

\* Date

Full List ?

A1 - Global Species of Conservation Concern  
 A2 - Assemblage of Restricted-range species  
 A3 - Assemblage of Biome-restricted species  
 A4i - >1% N.A waterbird pop. simultaneously; 5% over season  
 A4ii - >1% global pop. seabirds/terrestrial sp. simultaneously; 5% over season

Figure 11. Audubon IBA Database: Observation Date Record Screen and Species Criteria Screen

<a href="#">Home</a> <a href="#">Ownership</a> <a href="#">Habitat</a> <a href="#">Land Use</a> <a href="#">Threats</a> <a href="#">Monitoring Index</a> <a href="#">Site Report</a> <a href="#">Users</a>	<b>Year of Assessment Record</b>		
	<b>Year of Assessment</b>	<b>Site Criteria Proposed</b>	<b>Site Criteria Confirmed</b>
	2006	B1 - Continental Species of Conservation Concern D1 - State Species of Conservation Concern D4i - >1% State population	
	<b>Site Criteria</b>		
	* Year <input type="text"/>		
	Full List ?		
	A1 - Global Species of Conservation Concern A2 - Assemblage of Restricted-range species A3 - Assemblage of Biome-restricted species A4i - >1% N.A waterbird pop. simultaneously; 5% over season A4ii - >1% global pop. seabirds/terrestrial sp. simultaneously; 5% over season		
	<input type="button" value="Add to Proposed Criteria"/> <input type="button" value="Remove from Proposed Criteria"/>		
	<b>Proposed</b>		
	<input type="text"/>		

Figure 12. Audubon IBA Database: Site Criteria

<a href="#">Grounds, US-IN</a> <a href="#">Details</a> <a href="#">Species Data &amp; Criteria</a> <a href="#">Site Criteria</a> <a href="#">Ownership</a> <a href="#">Habitat</a> <a href="#">Land Use</a> <a href="#">Threats</a> <a href="#">Monitoring Index</a> <a href="#">Site Report</a> <a href="#">Users</a>	<b>Type/Category Quick Locator</b> <input type="text"/> <input type="button" value="Next-&gt;"/>	
	<b>Data Entry</b>	
	Note: unless types/categories have been previously associated with a site, they will not display.	
	<b>Select Type</b>	<b>Select Category</b> <input type="text"/> <input type="button" value="Add"/>
	Federal	Bureau of Indian Affairs Bureau of Land Management BLM Bureau of Reclamation Department of Energy DoE DoD - Air Force DoD - Army DoD - Army Corp of Engineers DoD - Marines DoD - National Guard DoD - Navy
	<b>Data Entered</b>	<input type="text"/> <input type="button" value="Remove"/>
	<b>Type</b>	<b>Category</b>
	Individual	95.0
	<b>Ownership Types - Short Description</b>	
	2000-character limit, 2000 characters remaining.	
<input type="text"/>		
<b>Ownership Types - Long Description</b>		
5000-character limit, 5000 characters remaining.		
<input type="text"/>		

Figure 13. Audubon IBA Database: Ownership Screen

Details  
Species Data & Criteria  
Site Criteria  
Ownership  
Habitat  
Land Use  
Threats  
Monitoring Index  
Site Report  
Users

Type/Category Quick Locator

Data Entry

Note: unless types/categories have been previously associated with a site, they will not display.

Select Type: Wetlands  
Select Category: Woody Wetlands %

Select Subcategory

- Bald Cypress-Tupelo Gum Swamp
- Bayheads
- Cypress Swamps
- Forested Wetland (=bottoml forest)
- Glades
- Hammocks
- Hardwood Swamps
- High Elevation Riparian Woodland
- Lowland Riparian
- Mangrove Forest

Data Entered

Type	Category	%

Habitat Types - Short Description

2000-character limit,  
2000 characters remaining.

Habitat Types - Long Description

5000-character limit,  
5000 characters remaining.

Figure 14. Audubon IBA Database: Habitat Screen

Species Data & Criteria  
Site Criteria  
Ownership  
Habitat  
Land Use  
Threats  
Monitoring Index  
Site Report  
Users

Type/Category Quick Locator

Data Entry

Note: unless types/categories have been previously associated with a site, they will not display.

Select Type: agriculture  
Select Category:

Data Entered

Type	Category	%	
agriculture	Grazing/ Pastureland	10.0	<input type="button" value="Remove"/>
agriculture	Hay Production	5.0	<input type="button" value="Remove"/>
agriculture	Row Crops	80.0	<input type="button" value="Remove"/>
urban/industrial/transport	Residential/ Suburban	5.0	<input type="button" value="Remove"/>

Land Use Types - Short Description

2000-character limit,  
2000 characters remaining.

Figure 15. Audubon IBA Database: Landuse Screen

Select Type	Select Category	Level
Abandonment/reduction of land mngmnt		<input type="button" value="Add"/>

Data Entered		
Type	Category	Level
Industrialization/Urbanization	Chemical runoff	3 <input type="button" value="Remove"/>
Industrialization/Urbanization	Commercial development	8 <input type="button" value="Remove"/>
Industrialization/Urbanization	Residential development	8 <input type="button" value="Remove"/>

Threat Types - Short Description
2000-character limit, 627 characters remaining.
While staging during spring migration in west-central Indiana, large congregations of feeding golden-plover can be found in harvested row-crop fields. A primary step in the process of conservation is to ensure that the agricultural areas of this IBA are not affected by urban sprawl or constructed into residential, industrial, commercial, or other types of developments. The conservation provisions of the Farm Bill, which provide important incentives to farmers, must be supported by Hoosier lawmakers, residents, and conservationists alike.
The aforementioned golden-plover research also showed that the birds had a marked preference for

Threat Types - Long Description
5000-character limit, 3627 characters remaining.
While staging during spring migration in west-central Indiana, large congregations of feeding golden-plover can be found in harvested row-crop fields. A primary step in the process of conservation is to ensure that the agricultural areas of this IBA are not affected by urban sprawl or constructed into residential, industrial, commercial, or other types of developments. The conservation provisions of the Farm Bill, which provide important incentives to farmers, must be supported by Hoosier lawmakers, residents, and conservationists alike.
The aforementioned golden-plover research also showed that the birds had a marked preference for

Figure 16. Audubon IBA Database: Threat Screen

### Database Structure – Output and Reporting

The first in a series of output tools for the Audubon IBA Database was the editable state summary page (Figure 17). This feature allows users to create and edit information summarizing state IBA program and publishes that summary on Audubon's national IBA website. This tool provides individual state IBA Programs with an opportunity to communicate current information about IBA activities, to customize their page with images and logos, and to feature information about sites, all through a standard template generated through the database.


Current Site: Anderson Lake State Fish and Wildlife Area, US-IL	Step 1 - State Summary
<ul style="list-style-type: none"> <li>Details</li> <li>Species Data &amp; Criteria</li> <li>Site Criteria</li> <li>Ownership</li> <li>Habitat</li> <li>Land Use</li> <li>Threats</li> <li>Monitoring Index</li> <li>Site Report</li> <li>Users</li> </ul>	<p>Summarize key details and provide the appropriate links, logos, and images to represent the current status of IBA efforts in your state. Image examples may include landscape photos, birds, people counting birds, or conservation activities at IBAs.</p> <p><b>Be sure to click [SAVE] before moving on to the next section ("Featured IBA"). Otherwise, you will lose all data entered in this section.</b></p> <p>Click [VIEW STATE SUMMARY PAGE] to view how the information you entered will be displayed.</p> <p><b>Overview:</b> Provide a brief overview of your program, including information about program history, current status, and recent successes.</p> <p>The Indiana Important Bird Areas Program was initiated in 1998 through the commitment and comprehensive efforts of a volunteer coordinator and the establishment of the Indiana IBA technical committee. The committee is composed of the state's leading ornithologists, ecologists, and conservationists who represent various natural heritage, wildlife management</p> <p><b>Indiana IBA Page URL:</b>  <a href="http://www.indianaaudubon.org/IBA.htm">http://www.indianaaudubon.org/IBA.htm</a>  <input type="text" value="http://www.indianaaudubon.org/IBA.htm"/></p> <p><b>Image 1:</b>          .gif or .jpg file          72 d.p.i. resolution          image should be 200 pixels wide x 150 pixels high</p>  <input type="button" value="Delete"/>

Figure 17. Audubon IBA Database: State Summary Page

With a click of a state on the Audubon IBA website, information regarding that state's IBA activities is viewable. The webpage also provides links to the state IBA Programs' partners, a short description of a featured IBA for the state (with associated images), and a link to view a list of other IBAs in the state (Figure 18), through the view all state IBAs link. The resulting web page displays a current list of sites in the database for that state that have been made available to the public, with status and county information alongside each site (Figure 19). Brief site descriptions, including ornithological significance and conservation issues, for each of these sites are displayed once a site is selected (Figure 20).

Bird Conservation > Important Bird Areas >

## ARKANSAS' IMPORTANT BIRD AREAS PROGRAM

Audubon Arkansas' Important Bird Areas Program was initiated in November 2001 with the establishment of the IBA Technical Committee. Committee members come from federal, state, non-profit, academic, and private organizations, and represent all areas of the state. Likewise, Arkansas' 22 recognized IBAs are located in all regions of the state and represent various types of ownership. Almost 2 million acres of bird habitat have been recognized, including bottomland hardwood forest, cypress-tupelo swamp, blackland prairie, pine forest, and even a fish hatchery. Nine wildlife management areas, 8 national wildlife refuges, 3 natural areas, 3 state parks, and numerous private lands are part of the program. Endangered Least Terns use 6 sites for breeding or during migration. Arkansas' IBAs provide habitat for 25 WatchList species and 59 Arkansas Birds of Conservation Interest including: Mottled Duck, Buff-breasted Sandpiper, American Woodcock, Red-cockaded Woodpecker, Brown-headed Nuthatch, Bachman's Sparrow, Swainson's Warbler, Painted Bunting, Rusty Blackbird, and of course Ivory-billed Woodpecker. Audubon Arkansas' IBA program has a solid foundation from which we will build the program through monitoring, conservation, and outreach in collaboration with partner organizations, Audubon chapters, landowners, and volunteers.

**FEATURED IMPORTANT BIRD AREA**  
View all [Arkansas IBAs](#)

**Name:** Cache-Lower White Rivers  
**State:** US-AR  
**Counties:** Arkansas, Desha, Monroe, Phillips, Prairie, Woodruff  
**Site Status:** Recognized

Flooded hardwood forest, Dagmar WMA.  
Photo by Dan Scheiman

Figure 18. Audubon IBA Database: State IBA Profile

**ARKANSAS IMPORTANT BIRD AREAS**

The following list may not include all potential, nominated, pending, identified, or recognized IBAs within the state as some IBA information may be unavailable for public viewing.

Quick Locator  Find Location

#	Name	Status	Counties
1.	<a href="#">Bald Knob National Wildlife Refuge</a>	Recognized	White
2.	<a href="#">Bayou DeView Raptor Area</a>	Recognized	Poinsett
3.	<a href="#">Bell Slough Wildlife Management Area</a>	Recognized	Faulkner
4.	<a href="#">Big Lake</a>	Recognized	Mississippi
5.	<a href="#">Blackland Prairie</a>	Recognized	Hempstead, Howard
6.	<a href="#">Cache-Lower White Rivers</a>	Recognized	Arkansas, Desha, Monroe, Phillips, Prairie, Woodruff
7.	<a href="#">Camp Robinson Wildlife Demonstration Area</a>	Recognized	Faulkner
8.	<a href="#">Charlie Craig State Fish Hatchery</a>	Recognized	Benton
9.	<a href="#">Cherokee Prairie</a>	Recognized	Franklin
10.	<a href="#">Choctaw Island Wildlife Management Area</a>	Recognized	Desha
11.	<a href="#">Fort Chaffee</a>	Recognized	Crawford, Franklin, Sebastian
12.	<a href="#">Holla Bend National Wildlife Refuge</a>	Recognized	Pope, Yell
13.	<a href="#">Lake Chicot</a>	Recognized	Chicot
14.	<a href="#">Lake Dardanelle</a>	Recognized	Johnson, Logan, Pope, Yell
15.	<a href="#">Magness Lake</a>	Recognized	Cleburne

Figure 19. Audubon IBA Database: List of State IBAs Screen

[What is an IBA?](#)

[IBA Program Status](#)

[IBA Criteria](#)

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## SITE PROFILE

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**Name:** Bald Knob National Wildlife Refuge

**State:** US-AR

**Counties:** White

**Site Status:** Recognized

**Site Description:**  
 Bald Knob National Wildlife Refuge encompasses approximately 15,000 acres of cropland, bottomland hardwoods, cypress/tupelo brakes, and other natural wetlands along the Little Red River and adjacent to the Henry Gray/Hurricane Lake State Management Area. This federal refuge is an important link in protecting wildlife and its habitat. The refuge is known for significant numbers of wintering waterfowl and migrating shorebirds. For more information visit <http://www.fws.gov/southeast/baldknob/> <http://www.ar.audubon.org/images/IBA/BaldKnobNWR.jpg>

**Ornithological Summary:**  
 Much of the Mississippi Alluvial Valley has been cleared of bottomland hardwood forest and cypress-tupelo swamp. Bald Knob provides an island of habitat for wetland birds in a sea of agriculture. The size and quality of the wet habitat makes the area ideal for nesting species such as Pied-billed Grebe, Yellow-crowned Night-Heron, Black-necked Stilt, Grasshopper Sparrow, and Cerulean, Swainson's, and Prothonotary Warblers. Managers manipulate water levels to provide stopover habitat for migrating shorebirds including Piping Plover, Buff-breasted Sandpiper, and Least Tern. In fact, the refuge has recorded 50 of the 63 species on the Arkansas Birds of Conservation Interest list: 26 as known or suspected breeders, 20 as migrants, and 4 as winter residents.

**Conservation Issues:**  
 Bald Knob provides secure, healthy habitat for birds. Conditions are only improving as refuge staff work to restore the hydrology of the area by building weirs and installing water-control structures to simulate natural winter flooding. In addition, staff have restored approximately

**Figure 20.** Audubon IBA Database: Site Profile Screen

In addition to the publicly accessible site profile, a comprehensive site profile was also developed for use by the IBA coordinator and the IBA technical committee for evaluating the site against IBA criteria. Available through the database application, this report allows for viewing and printing individual site reports for each site in the database. Designed with the technical committee review and prioritization process in mind, this report outputs the majority of the information entered for the site into one comprehensive report. This comprehensive report is useful for planning, review, and distribution purposes. It includes information about general site details, species data, proposed and confirmed criteria, as well as all of the ownership, habitat, land use, and threat details entered for that site (Figure 21a, and b).

<b>Site Name:</b> Anderson Lake State Fish and Wildlife Area		<b>IBA Code:</b>
<b>Status:</b> Recognized		<b>State:</b> Illinois
<b>Species Criteria:</b> D1		<b>Country:</b> US
<b>Site Criteria:</b> D4ii		<b>Counties:</b> Fulton, Schuyler
<b>Latitude:</b> 40.2	<b>Area (ha):</b> 864.0	<b>Elevation (m):</b> Min 133.0 Max 143.0 Avg 0.0
<b>Longitude:</b> -90.19		
<b>Bird Conservation Region:</b> Eastern Tallgrass Prairie		<b>Endemic Bird Area:</b>
<b>Site Description:</b> In the early half of the 1900s, Anderson Lake was a private shooting grounds for one of the many once-famous duck clubs that dotted the Illinois River valley. Since the first land purchases by the state in 1947, the site has been operated as a public hunting and fishing area. The area is in west-central Illinois, about 11 miles north of Browning in Fulton County along Route 100. Anderson Lake is a floodplain lake that frequently receives overflow waters from the Illinois River. The lake has 1,134 surface acres with a maximum depth of six feet and an average depth of four feet. Carlson Lake is a waterfowl management area of 230 surface acres, with a maximum depth of five feet and an average depth of three feet. This area is drained in early summer, planted to feed duck and flooded in the fall to attract waterfowl to the area. The area is a picturesque bottomland setting with timber species dominated by silver maple, cottonwood and willow. Plant growth is lush and the timber tends to be tall. A variety of waterfowl abounds in the area. For bird enthusiasts, large numbers of bald eagles can be seen in the winter months and white pelicans viewed during the spring on their migration north.		
<b>Ornithological Significance:</b> Anderson Lake State Fish and Wildlife Area serves primarily as a stopover site for migratory waterfowl along the Illinois River.		

**Figure 21a.** Audubon IBA Database: Comprehensive Site Profile

**Species Data and Criteria (abbreviated):**

(for the full table, [click here...](#))

Common Name	Date	Seasonal/Daily	Season	# Observed	Density (#/km2)	Units	Proposed Criteria	Confirmed Criteria
Canada Goose	2-21-2001	D	passage	2200		Individuals		
	<b>Source Text:</b>	IDNR Aerial Waterfowl Survey. 2001						
Mallard	2-21-2001	D	passage	5000		Individuals		
	<b>Source Text:</b>	IDNR Aerial Waterfowl Survey. 2001						
Northern Pintail	2-21-2001	D	passage	1500		Individuals		
	<b>Source Text:</b>	IDNR Aerial Waterfowl Survey. 2001						
Canvasback	2-21-2001	D	passage	1500		Individuals		
	<b>Source Text:</b>	IDNR Aerial Waterfowl Survey. 2001						
Bald Eagle	1997	S		20			D1 - State Species of Conservation Concern	D1 - State Species of Conservation Concern

**Ownership**

Illinois Department of Natural Resources c/o Roger Cox 647 N State Hwy 100 Astoria, IL 61501

% of IBA	Ownership
100.0	State / Wildlife Management Area

**Habitat**

Plant communities include wet bottomland forest with Silver maple and Cottonwood, large open water, and lakes with shallow water and mudflats. *Boltonia decurrens* is a federally threatened species present on the site.

% of IBA	Habitat
10.0	Herbaceous Planted/Cultivated / Row Crops / Active Farm
25.0	Forested Upland / Deciduous forest / Bottomland Hardwood Forest
33.0	Water / Open Water / Lake
33.0	Water / Open Water / River

**Land Use**

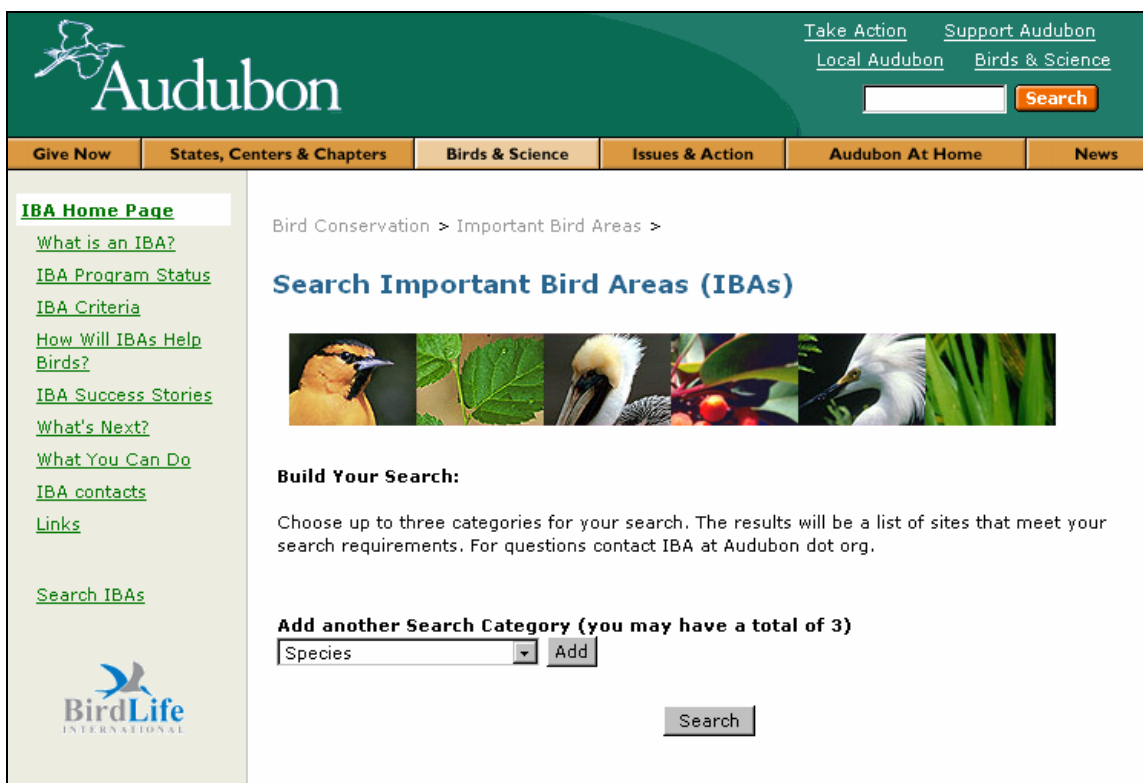
The area offers bank fishing, boating, snowmobiling, ice skating, a seasonally enclosed shelter with a fireplace, picnic shelters, and grills.

% of Total Use of IBA	Land Use
	hunting / Waterfowl Hunting
100.0	nature conservation and research / Conservation/ Natural Area

**Figure 21b.** Audubon IBA Database: Comprehensive Site Profile

The most recent output tool released is the IBA Search Tool. Through the search tool, comprehensive information about IBAs is made available to the public. Any users can search for particular Important Bird Areas, based on a combination of up to three of the following search categories: species, state(s), conservation issues (i.e., threats), habitat, land use, ownership, IBA criteria, site status (e.g., nominated, identified), bird conservation region, area, and site name (Figure 22).

Work continues to refine and improve the database and to develop and implement new features and tools associated with the database. In development are plans to further enhance the database to include additional web integration and reporting features, the ability to track conservation actions and monitoring activities, the ability to track changes in habitat, land use, and threats at the site, and the potential integration with a mapping system capable of displaying IBA maps.



**Figure 22.** IBA Search Tool

### IBA Database Status

Information for over 2,600 sites throughout 48 states has been entered and updated in the IBA Database through the efforts of over 60 users across the country as of 30 October 2006. Data for over 850 sites from 28 states are now searchable and accessible to the public through this IBA search tool. In addition, approximately 20 states have created their state IBA Program profile. A state profile can be viewed by clicking on a state from the IBA homepage, <http://www.audubon.org/bird/iba/>.

While it is significant that at least some information has been entered for over 2,600, sites it is also important to recognize that at a minimum a site name must be entered. Beyond that, users have the option of entering additional data to associate with the site. In many cases all that is available in addition to a site name is its central coordinates (Table 6). Significant gaps exist in the areas of species data, criteria, habitat, landuse, ownership, and threats.

The issue of data gaps is significant, especially as it relates to our ability to review data and draw conclusion for specific species, habitats, or for evaluating dominant threats. For example, for the analysis of waterbird IBAs for the Waterbirds on Working Lands Project, having data about species presence and abundance is important in order to understand the degree to which certain threats or actions will impact those species. For prioritizing IBAs, having abundance data is essential since we cannot apply IBA criteria with out them.

While more than 2,600 site names have been entered into the IBA database, with a majority of those being associated with central coordinates, data completeness is variable with gaps throughout the species presence and abundance section and also the site criteria section. Much data remain lacking for the various site attributes (i.e., habitats, landuse, ownership and threats). The graph in Figure 23 details the degree to which species data are available within the IBA database for states that have waterbird IBAs and occur within the focal Bird Conservation Regions (BCRs). Of 24 states that overlap the focal BCRs, 13 have waterbird IBAs with sufficient data for analysis. Those 13 states, as represented in Figure 23, vary in the amount of species data they have associated with their IBAs and also in the degree to which species data are associated with the IBA criteria. Four states, Arkansas, Illinois, Indiana, and Mississippi, have proportionally more species population data associated with criteria. Colorado, Iowa, Michigan, Missouri, Ohio, and Wyoming have no species data associated with IBA criteria. Illinois, Minnesota, Nebraska and New Mexico are caught in the middle, with some

degree of species population data associated with criteria but not always a majority of species data associated with criteria.

**Table 6.** Status of data entry into Audubon's Important Bird Areas database.

	Pot. <sup>a</sup>	Nom. <sup>b</sup>	Id'd <sup>c</sup>	Rec. <sup>d</sup>	Pen. <sup>e</sup>	Rej. <sup>f</sup>	Del. <sup>g</sup>	Mer. <sup>h</sup>	No. <sup>i</sup>	Data Status	State Prog. <sup>j</sup>	Glob. <sup>k</sup>	Cont. <sup>l</sup>	Pot. Glob. <sup>m</sup>	Pot. Cont. <sup>n</sup>
AL	6														
AK	2	13	67	49	1	2		5		Complete	Yes	60	5	5	
AZ	61		26					6		Complete	Yes			1	
AR				25		3				Complete	Yes			4	
CA				144	10					Update	Yes				
CO			48							Update		3			
CT	84	2	11	26	6					Complete	Yes	3			
DE			3	1						Update					
FL			100							Update		19			
GA			17	4						Update				1	
HI	16														
ID			58					4		Almost Complete	Yes				
IL	9	20	29	20	3					Complete	Yes				
IN	5	4	26							Complete	Yes			6	
IA		156	41		2	56			35	Update					
KS	10														
KY	2														
LA		2								Update					
ME															
MD			8	14	13	6	1			Complete	Yes	3		2	
MA			80							Update					
MI	124	2					1	2		Complete					
MN			4	5						Update	Yes				
MS			35			1		8		Mostly complete				1	
MO			47							Complete	Yes				
MT		2	7							Update					
NE		14		2		1		4		Mostly complete	Yes				
NV				36	1	1				Complete	Yes			10	
NH	1	2	6	9						Mostly complete					
NJ															
NM	5		51	10	5	11	4			Complete	Yes			2	
NY			137				10	2		Complete	Yes	5		10	5
NC			79							Update		4			
ND	15														
OH	1	45		63		1				Needs updating					
OK	7														
OR			3	78						Mostly Complete	Yes				
PA			72	1					10	Mostly Complete					
RI	1	1								Complete					
SC			3	40						Update	Yes				
SD	2														
TN				29				27		Update					
TX		22	2		3			1		Update					
UT	1		2	15						Complete				9	
VT			64	2				31		Update					
VA	2		3	11	1			1		Complete	Yes			2	
WA			53							Mostly complete					
WV	3														
WI				1						Update	Yes				
WY			13	27						Complete	Yes	1			
	357	285	1069	638	45	82	16	91	45		20	98	5	53	5

<sup>a</sup> Number of Potential sites to be nominated for Important Bird Areas Status.

<sup>c</sup> Number of Identified Important Bird Areas.

<sup>e</sup> Number of Pending sites pending nominated status.

<sup>g</sup> Number of Delisted Important Bird Areas.

<sup>i</sup> Number of Sites that do not have their status set.

<sup>k</sup> Current number of Global Important Bird Areas recognized.

<sup>m</sup> Current number of potential Globally Important Bird Areas.

<sup>b</sup> Number of sites Nominated for Important Bird Areas status.

<sup>d</sup> Number of Recognized Important Bird Areas

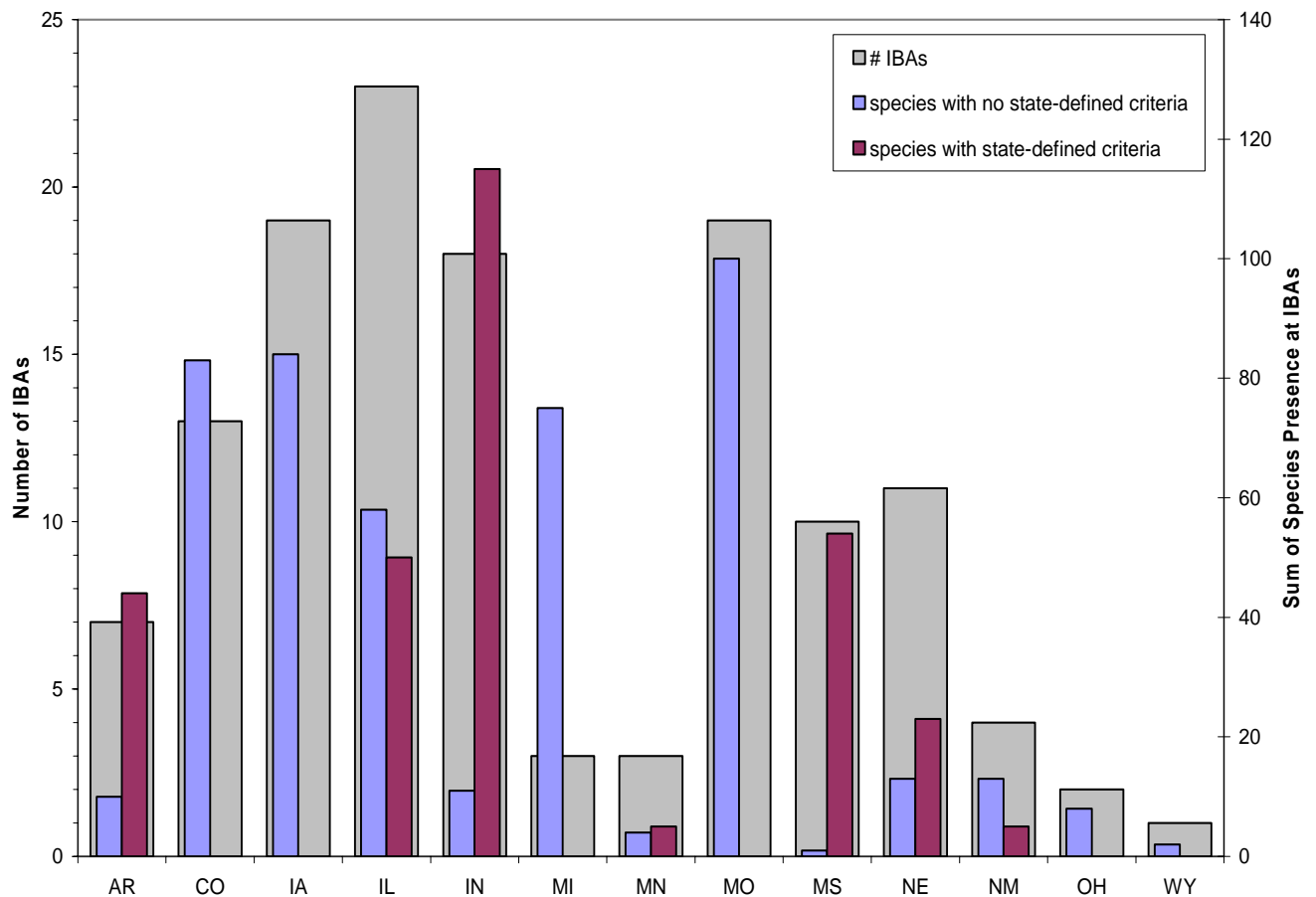
<sup>f</sup> Number of Rejected sites.

<sup>h</sup> Number of Merged Important Bird Areas.

<sup>j</sup> State Program Profiles Completed.

<sup>l</sup> Current Number of Continental Important Bird Areas recognized.

<sup>n</sup> Current number of potential Continentally Important Bird Areas.



**Figure 23.** Focal BCR IBAs with waterbird focal species data (N =133 IBAs) in the IBA Database by state (left axis), and waterbird focal species presence according to the application of state-defined criteria (right axis) (N = 758 species records; criteria as applied in the IBA Database).

The national IBA team continues to work with IBA staff throughout the country to add and update information in the database and to make their information available to all Audubon website users.

**Conservation Value of Audubon’s Important Bird Areas Database**

Since the Important Bird Areas Program is a site-based conservation program, centralized data describing birds and conditions at particular sites are essential to understanding the significant threats to IBAs, and determining the appropriate conservation actions to undertake. With these valuable data centralized, sites can be evaluated and prioritized, and changing conditions at the site, including changes in bird numbers and in threats, can be tracked and used to inform land management decisions and conservation actions. With updates to the database readily accessible through the internet, Important Bird Areas data are available to IBA professionals, conservation partners, and grassroots conservationists.

Management and review of data throughout the IBA process is facilitated by the IBA database as well. The database allows for the storage of the details of sites and species as more information about the site becomes available. Through the IBA process, sites are prioritized based on their significance at a state, continental, or global scale. This prioritization process is facilitated by the IBA database, with potential Global and Continental IBAs first indicated by proposing criteria in the database, generally by state users, and then screened by national IBA staff and prepared in subsequent reports for the U.S. IBA Technical Committee. The compilation of these comprehensive site reports had previously been a very time and labor-intensive process. The site report feature in Audubon’s IBA Database, coupled with additional reporting capability, have greatly reduced the time and effort involved in the global and continental IBA review. As further development of database output continues, the hope is that the work involved in compiling IBA reports will be further minimized. With less effort

invested in processing sites for prioritization, the balance can shift towards conservation planning and actions directed toward these high priority sites.

Output features, such as the IBA search tool, help promote the IBA program and facilitate data sharing, allowing birders to find IBAs in a particular area or with particular species and the conservation community to aggregate IBAs by threat, region, or other IBA characteristics in order to more easily plan conservation activities. The tool offers users an opportunity to quickly uncover information about IBAs by creating individualized queries, ranging from simple searches to multi-variable questions. In Figures 24 through 29 a search is depicted for a species of conservation concern, the Least Tern, occurring on federal land within the Eastern Tallgrass Prairie Bird Conservation Region. The results of this search could help direct federal resources and also the resources of other conservation partners to improve habitat conditions for the Least Tern and also for monitoring the sites and the Least Tern. Following are the sample questions posed to the IBA search tool:

- Question 1 (Species): At which IBAs have Least Tern been documented to occur (Figures 24 and 25)?
- Question 2 (Species, Ownership): Where are Least Terns occurring on Federal land (Figures 26 and 27)?
- Question 3 (Species, Ownership, BCR): Where in the Eastern Tallgrass Prairie BCR are Least Terns occurring on Federal land (Figures 28 and 29)?

For each search a list of sites is returned, matching the defined search fields. Once a site from this list is selected, a public version of the comprehensive Site Report is displayed, similar to the Site Report accessed through the database application (Figure 21a and b), which includes general information on location, site description, ornithological description and data, and data and text descriptions for ownership, habitat, land use, and conservation issues at the site. Through this, interested users could look through individual Site Reports, searching for additional information such as the major land uses or conservation issues at these sites (Figure 30), among other data.

[What You Can Do](#)  
[IBA contacts](#)  
[Links](#)  
[Search IBAs](#)

**Build Your Search:**

Choose up to three categories for your search. The results will be a list of sites that meet your search requirements. For questions contact IBA at Audubon dot org.

**Search Category 1: Species**

Now select a Species (maximum three):  
Note 1: For a wildcard search, use the "%" symbol  
Note 2: Selecting multiple species means each site will have at least one of the species

To SELECT a species for a search, click on the name.      To REMOVE a species from the search, click on the name.

     • **Least Tern**

**Add another Search Category (you may have a total of 3)**  
State

Figure 24. IBA Search Tool: Search Question 1, Search Category Selection Screen.

[IBA Program Status](#)  
[IBA Criteria](#)  
[How Will IBAs Help Birds?](#)  
[IBA Success Stories](#)  
[What's Next?](#)  
[What You Can Do](#)  
[IBA contacts](#)  
[Links](#)  
[Search IBAs](#)

**Search Important Bird Areas: Results** [Search again?](#)

You Searched on these Categories:  
**Species: (with any of these species):**  
 Least Tern

**Note:** The results displayed consist of publicly available IBA data that meet your search parameters.  
 For questions, contact IBA at Audubon dot org

Page 1 of 2  
 1 2 [Next >>](#) [Last](#)

#	Site Name	Status	State	Counties
<b>US-AR ▼</b>				
1.	<a href="#">Bald Knob National Wildlife Refuge</a>	Recognized	US-AR	White
2.	<a href="#">Charlie Craig State Fish Hatchery</a>	Recognized	US-AR	Benton
3.	<a href="#">Choctaw Island Wildlife Management Area</a>	Recognized	US-AR	Desha
4.	<a href="#">Lake Chicot</a>	Recognized	US-AR	Chicot
5.	<a href="#">Lake Dardanelle</a>	Recognized	US-AR	Johnson, Logan, Pope, Yell
6.	<a href="#">Millwood Lake</a>	Recognized	US-AR	Hempstead, Howard, Little River, Sevier
7.	<a href="#">Wapanocca National Wildlife Refuge</a>	Recognized	US-AR	Crittenden
<b>US-CT ▼</b>				
8.	<a href="#">Barn Island Wildlife Management Area</a>	Recognized	US-CT	New London
9.	<a href="#">Charles Island and Silver Sands State Park</a>	Recognized	US-CT	New Haven
10.	<a href="#">Greenwich Point Park and Nearby Islands</a>	Recognized	US-CT	Fairfield

Figure 25. IBA Search Tool: Search Question 1, Search Results Screen.

**Search Category 1: Species** [Remove](#)

Now select a Species (maximum three):  
 Note 1: For a wildcard search, use the "%" symbol  
 Note 2: Selecting multiple species means each site will have at least one of the species

[Find a Species](#)

To **SELECT** a species for a search, click on the name.      To **REMOVE** a species from the search, click on the name.

     • [Least Tern](#)

**Search Category 2: Ownership** [Remove](#)

Now select an Ownership type:

**Add another Search Category (you may have a total of 3)**  
 [Add](#)

[Search](#)

Figure 26. IBA Search Tool: Search Question 2, Search Category Selection Screen.

[IBA Program Status](#)

[IBA Criteria](#)

[How Will IBAs Help Birds?](#)

[IBA Success Stories](#)


[What's Next?](#)

[What You Can Do](#)

[IBA contacts](#)

[Links](#)

[Search IBAs](#)



## Search Important Bird Areas: Results

[Search again?](#)

You Searched on these Categories:


**Species: (with any of these species):**  
Least Tern

**Ownership:**  
Federal

**Note:** The results displayed consist of publicly available IBA data that meet your search parameters.  
For questions, contact IBA at Audubon dot org

#	Site Name	Status	State	Counties
<b>US-AR ▼</b>				
1.	<a href="#">Bald Knob National Wildlife Refuge</a>	Recognized	US-AR	White
2.	<a href="#">Lake Dardanelle</a>	Recognized	US-AR	Johnson, Logan, Pope, Yell
3.	<a href="#">Millwood Lake</a>	Recognized	US-AR	Hempstead, Howard, Little River, Sevier
4.	<a href="#">Wapanocca National Wildlife Refuge</a>	Recognized	US-AR	Crittenden
<b>US-CT ▼</b>				
5.	<a href="#">Salt Meadow Unit of Stewart B. McKinney NWR</a>	Recognized	US-CT	Middlesex
<b>US-IN ▼</b>				
6.	<a href="#">Cane Ridge Wildlife Management Area and Gibson Lake</a>	Recognized	US-IN	Gibson
<b>US-MD ▼</b>				
7.	<a href="#">Assateague Island</a>	Recognized	US-MD	Worcester
8.	<a href="#">Blackwater-Fishing Bay Marshes</a>	Recognized	US-MD	Dorchester
9.	<a href="#">Central Chesapeake Islands</a>	Recognized	US-MD	Dorchester, Somerset
<b>US-MD ▼</b>				

Figure 27. IBA Search Tool: Search Question 2, Search Results Screen.



**Search Category 1: Species** Remove

Now select a Species (maximum three):

Note 1: For a wildcard search, use the "%" symbol  
Note 2: Selecting multiple species means each site will have at least one of the species

To SELECT a species for a search, click on the name.      To REMOVE a species from the search, click on the name.

Least Tern

- [Least Tern](#)

**Search Category 2: Ownership** Remove

Now select an Ownership type:

Federal ▼

**Search Category 3: Bird Conservation Region** Remove

Now select a BCR (Bird Conservation Region):

Eastern Tallgrass Prairie ▼

Figure 28. IBA Search Tool: Search Question 3, Search Category Selection Screen.

[What is an IBA?](#)

[IBA Program Status](#)

[IBA Criteria](#)

[How Will IBAs Help Birds?](#)

[IBA Success Stories](#)


[What's Next?](#)

[What You Can Do](#)

[IBA contacts](#)

[Links](#)

[Search IBAs](#)



## Search Important Bird Areas: Results

[Search again?](#)

You Searched on these Categories:

**Species: (with any of these species):**  
Least Tern

**Ownership:**  
Federal

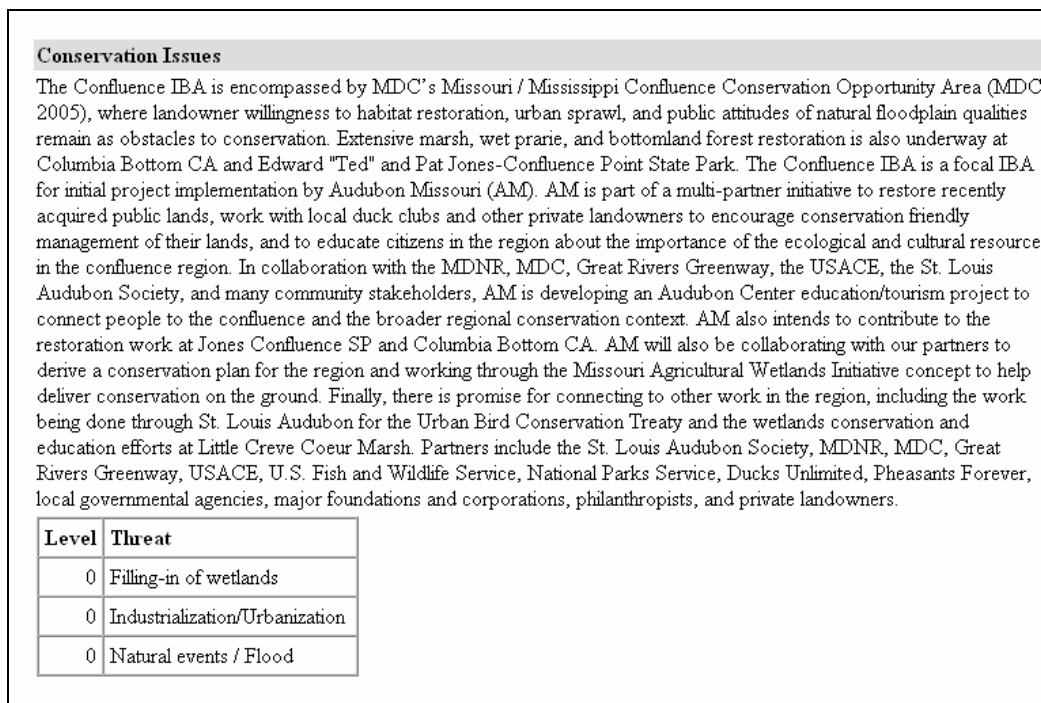
**Bird Conservation Region:**  
Eastern Tallgrass Prairie

**Note:** The results displayed consist of publicly available IBA data that meet your search parameters.  
For questions, contact IBA at Audubon dot org

#	Site Name	Status	State	Counties
<b>US-MO</b> ▼				
1.	<a href="#">Great Rivers Confluence</a>	Identified	US-MO	Lincoln, St. Charles, St. Louis
2.	<a href="#">Lower Grand River Wetlands</a>	Identified	US-MO	Chariton, Linn, Livingston

Figure 29. IBA Search Tool: Search Question 3, Search Results Screen.

Land Use	
% of Total Use of IBA	Land Use
	agriculture / Crops
	hunting / Waterfowl Hunting
	nature conservation and research / Conservation/ Natural Area
	water management / Flood control



**Figure 30.** IBA Search Tool: Search Question 3, Portion of Resulting Report.

Audubon's IBA database integrates completely with the National Audubon website, facilitating its access to Audubon's vast network of members, donors, and casual visitors. The database was also designed with a goal of exporting data for inclusion with the BirdLife International IBA dataset. It is anticipated that once the initial inventory and prioritization of global IBAs in the U.S. is completed, Audubon will transfer this critical information to BirdLife for inclusion in the World Bird Database. With U.S. IBA data residing in both the Audubon and BirdLife databases, conservation planning for U.S. Important Bird Areas will be facilitated at both national and international scales.