

IBA Monitoring Guide

Introduction

The Important Bird Area (IBA) Program was launched by Audubon Arkansas in 2001 to create an inventory of critical bird breeding, wintering, and migratory stopover areas in the state. In cooperation with a host of partners, IBAs have been recognized on the basis of criteria that were developed by a Technical Committee of bird experts. These criteria pertain to sites with significant bird concentrations, sites with Arkansas birds of conservation interest, and sites that support assemblages of species characteristic of representative, rare, threatened, or unique habitats. IBAs have been identified throughout Arkansas in all types of habitats, including bottomland hardwood forests, shrub/scrub, blackland prairie, pine woodland, and artificial impoundments. They represent the most important sites in Arkansas for birds and bird conservation.

The network of IBAs in Arkansas provides a solid foundation upon which to build conservation efforts aimed at protecting the full diversity of avian species in the state. One need that has been identified for almost all IBAs is for better, more comprehensive, more recent data on bird use of the sites. Quality avian data are an important tool for addressing threats to individual IBAs, developing conservation and management plans, and assessing bird conservation and habitat acquisition priorities statewide. The establishment of long-term monitoring programs for IBAs is necessary for the generation of these data and, therefore, central to the eventual success of our efforts to preserve avian diversity. This report outlines Audubon Arkansas' initiative to establish avian monitoring programs at IBAs and serves as a guide for establishing monitoring programs at IBAs to achieve as much standardization as possible among sites.

If you are interested in monitoring an IBA, we will work with you to develop the most appropriate survey for your site. Actual methods, including skill level, training, and time commitment, will vary depending on the circumstances at each IBA. The following monitoring guidelines are organized by IBA criteria to show how they should target the important aspects of each site. In general, the recommended methods are variations of area, point, or nest counts, or take the form of compiling a checklist. Ideally, IBAs will be surveyed regularly and systematically to record changes and trends in bird populations over time.

Overall Goal

One goal of Audubon Arkansas's Important Bird Area program is to establish long-term volunteer avian monitoring programs at IBAs in Arkansas to generate data on bird use of the sites. As such we are providing the following guidelines to aid in establishing monitoring programs at IBAs.

Methods are presented for each of the Arkansas IBA criteria to show how they should target the important aspects of each site. Actual methods will vary depending on the circumstances at each IBA, although in all cases efforts will strive to provide accurate, useful, current, and targeted data. The skill level, training, and time commitment varies for each criteria. The methods outlined below suggest both the minimum and maximum time commitment required. The method that best suits the situation of each individual IBA should be implemented.

Waterfowl Concentration Site

Criterion

(Dii): The site regularly supports at least 10,000 waterfowl (except Snow Geese) at one time during some part of the year. The designation “waterfowl” includes ducks, geese, and swans.

Questions

Does this site continue to meet the waterfowl concentration criterion?

What habitat is available at this site that attracts high concentrations of waterfowl?

Project Goals

- To determine what waterfowl species are present at the site, in what numbers, and in what seasons.
- Total number of waterfowl using the site at any one time. Ideally individuals will be categorized by species.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale), precipitation, water level, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

The method for collecting these data should be in the form of area counts focused at the main concentration sites. A point, or possibly two, should be located at the best vantage point. Surveys should be conducted at least once every month (depending on weather) but ideally weekly during the season of highest concentration. Surveys can be conducted at any time of day, but early mornings between daybreak and 12pm tend to lend better to fewer outside disturbances. It may be helpful to have 2 people, one for observing and counting, and another for recording. Flocks of waterfowl can be directly counted if less than 1,000 individuals are present. If more than 1,000 birds are present, it may be better to estimate flock size.

Direct Counts

When the flock number is less than 1,000, the flock should be directly counted using binoculars or a scope to count each bird. The number of birds present for each species should be recorded. Care should be taken to avoid double-counting birds that may have flown to another portion of the count area. For more accurate results, it is best to ensure that:

The birds are not mobile and there is little chance for disturbance

The entire area where the birds are clearly visible from the vantage point

The observer does not disturb the birds (reduce visibility, avoid sudden movements, keep quiet)

The sun is behind the observer so that color markings are most visible

Estimation

If there are more than 1,000 birds, the birds are constantly in flight, there is a lot of disturbance, or the light is poor, an estimation method should be used. This consists of counting or estimating a block of birds and then using that block to measure the remainder of the flock. If this method is used, the observer should make several estimations and ask for a second observer's opinion. The proportion of each species in the flock should also be recorded if this method is used.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing

Training

Volunteers should be trained in estimating large flocks and identifying waterfowl from a distance.

Habitat Evaluation

Note such things as water level, types and density of aquatic and terrestrial vegetation used by flock, habitat type (marsh, mudflat, reservoir, fish pond, flooded ag field), levels and types of human disturbance.

Wading Bird Concentration Site

Criterion

(Diii): The site regularly supports at least 25 breeding pairs of wading birds. The designation “wading birds” includes bitterns, herons, egrets, night-herons, and ibises.

Questions

Does this site continue to meet the wading bird concentration criterion?
What habitat is available at this site that attracts high concentrations of wading birds?

Project Goals

- To determine what wading bird species are present at the site, in what numbers, and in what seasons.
- Total number of wading birds/pairs using the site at any one time. Ideally individuals will be categorized by species.
- To document the habitat at the site.

Data Required

See Datasheet. At a minimum, data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale), precipitation, water level, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

Bitterns

The method for collecting data on these secretive birds is in the form of an area count consisting of up to eight survey stations placed throughout the habitat. A station is defined as a 100-meter (110 yard) radius semicircle consisting of 50% marsh habitat. Marsh habitat may contain shrubs and trees, but should be dominated by non-woody, emergent plants. These emergent plants often occur intermixed with shallow open water areas, usually containing submerged and floating plants. Stations should be accessible by foot or boat, and should be marked on a map, if not permanently located with a stake and a metal tag or with a GPS unit to facilitate relocation in subsequent years.

Using a map of the marsh, identify one to eight survey stations so that they cover a representative portion of the marsh, but can all be surveyed on a single evening. Survey stations should be separated by at least 250 meters (275 yards). Points should be as close to or as far into the wetland as possible/feasible.

Each station is to be surveyed twice each year between May 20 and July 5, no less than 10 days apart. All of the stations should be surveyed in the same sequence, at about the same time, on both visits. Surveys should begin after 6 p.m. and must end at or before sunset in good weather conditions (i.e. warm, dry weather with little wind).

Bird surveys should be conducted from a central point located on the edge of the 100-meter radius semi-circle station. Each station is surveyed for 10 minutes. A 5-minute broadcast tape is played during the first half of the survey to help elicit calls from these elusive and normally undetected marsh bird species. For tape playback, 5-15 seconds of a

species' call should be repeated 3 times with 5 seconds of silence between repeats for a total of 30-60 seconds per species. Thirty seconds of silence should be used before beginning another species' call.

During the count period, observers record all birds heard or seen within the station area and map their observations onto a field sheet. Aerial foragers are also counted and are defined as those birds actively foraging within the station area to a height of 100 meters. Bird species flying through or detected outside the station area are tallied separately.

Heronries

Sites with large heronries should consider tree colony counts. These counts are conducted either from a distance or by walking through the nesting area. Time should be a factor when walking through the nesting area making sure not to count during the early part of the breeding season (counts should be done after the start of egg-laying) and making sure to minimize disturbance (limiting time within the nesting area).

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing, *broadcasting equipment, including playback tape*

Training

Volunteers should be able to properly identify wading birds from a distance by sight and sound (e.g. American Bittern), estimation of distance, habitat assessment, establishment of points, and the mechanics of running a survey.

Habitat Evaluation

Note such things as water level, types and density of aquatic and terrestrial vegetation used by flock, habitat type (marsh, mudflat, reservoir, fish pond, flooded ag field), levels and types of human disturbance.

Gull Concentration Site

Criterion

(Div): The site regularly supports at least 2,000 gulls at one time during the winter.

Questions

Does this site continue to meet the gull concentration criterion?

What habitat is available at this site that attracts high concentrations of gulls?

Project Goals

- To determine what gull species are present at the site, in what numbers, and in what seasons.
- Total number of gulls using the site at any one time. Ideally individuals will be categorized by species.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale), precipitation, water level, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

The method for collecting these data should be in the form of area counts focused at the main concentration sites. A point, or possibly two, should be located at the best vantage point. Surveys should be conducted at least once every month during the winter (depending on weather) but ideally weekly during the period of highest concentration.

Monitoring for this criterion should concentrate on changes over time with the data concentrating on the total numbers of individuals in each species. Flocks can be directly counted if less than 1,000 individuals are present. If more than 1,000 birds are present, it may be better to estimate flock size.

Direct Counts

When the flock numbers less than 1,000, the flock should be directly counted using binoculars or a scope to count each bird. The number of birds present for each species should be recorded. For more accurate results, it is best to ensure that:

- The birds are not mobile and there is little chance for disturbance
- The entire area where the birds are is clearly visible from the vantage point
- The observer does not disturb the birds (reduce visibility, avoid sudden movements, keep quiet)
- The sun is behind the observer so that color markings are most visible

Estimation

If there are more than 1,000 birds, the birds are constantly in flight, there is a lot of disturbance, or the light is poor, an estimation method should be used. This consists of counting or estimating a block of birds and then using that block to measure the remainder of the flock. If this method is used, the observer should make several estimations and ask for a second observer's opinion. The proportion of each species in the flock should also be recorded if this method is used.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing

Training

Volunteers should be trained in estimating large flocks and identifying seabirds/terns/gulls from a distance.

Habitat Evaluation

Note such things as water level, types and density of aquatic and terrestrial vegetation used by flock, habitat type (marsh, mudflat, reservoir, fish pond, flooded ag field), levels and types of human disturbance.

Shorebird Concentration Site

Criterion

(Dv): The site regularly supports at least 1,000 shorebirds at one time during migration. The designation "shorebirds" includes such birds as plovers, sandpipers, stilt, avocet, snipe, woodcock, and phalaropes.

Questions

Does this site continue to meet the shorebird concentration criterion?

What habitat is available at this site that attracts high concentrations of shorebirds?

Project Goals

- To determine what shorebirds species are present at the site, in what numbers, and in what seasons.
- Total number of shorebirds using the site at any one time. Ideally individuals will be categorized by species.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale), precipitation, water level, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

The method for collecting these data should be in the form of area counts focused at the main concentration sites. A point, or possibly two, should be located at the best vantage point. Surveys should be conducted at least once every month during migration (depending on weather) but ideally weekly during the period of highest concentration. Monitoring for this criterion should concentrate on changes over time with the data concentrating on the total numbers of individuals in each species.

Direct Counts

When the flock numbers less than 1,000, the flock should be directly counted using binoculars or a scope to count each bird. The number of birds present for each species should be recorded. Care should be taken to avoid double-counting birds that may have flown to another portion of the count area. For more accurate results, it is best to ensure that:

- The birds are not mobile and there is little chance for disturbance
- The entire area where the birds are is clearly visible from the vantage point
- The observer does not disturb the birds (reduce visibility, avoid sudden movements, keep quiet)
- The sun is behind the observer so that color markings are most visible

Estimation

If there are more than 1,000 birds, the birds are constantly in flight, there is a lot of disturbance, or the light is poor, an estimation method should be used. This consists of counting or estimating a block of birds and then using that block to measure the remainder of the flock. If this method is used, the observer should make several estimations and ask for a second observer's opinion. The proportion of each species in the flock should also be recorded if this method is used.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing

Training

Volunteers should be able to properly identify shorebirds from a distance by sight and in tightly packed flocks.

Habitat Evaluation

Note such things as water level, types and density of aquatic and terrestrial vegetation used by flock, habitat type (marsh, mudflat, reservoir, fish pond, flooded ag field), levels and types of human disturbance.

Raptor Concentration Site

Criterion

(Dvi): The site is regularly a migratory corridor for at least 3,000 raptors per season during spring or fall migration, or 100 birds per day during migration, or supports at least 3 raptors per square mile on winter territory, or is a winter roost for at least 50 Bald Eagles, or is a roost for at least 100 vultures.

Questions

Does this site continue to meet the raptor concentration criterion?

What are the geographic features and habitat at this site that attract high concentrations of raptors?

Project Goals

- To determine what raptor species are present at the site, in what numbers, and in what seasons.
- Total number of raptors using the site at any one time. Ideally individuals will be categorized by species.

- To document the habitat/landscape at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale) and direction, precipitation, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

Migration

The method for obtaining these data should be in the form of raptor counts during times of highest concentrations. Monitoring for this criterion should concentrate on changes over time with the data concentrating on the total numbers of individuals in each species. At least one observer should count the raptors that fly over a set point for 6-13 hours a day, depending on weather, throughout the peak migration season. If volunteer time is limited, the number of survey days can be reduced by targeting peak migration days; peak days can be predicted based on weather patterns.

Roosts

The methods for obtaining these data should be in the form of area searches throughout the site (like a Christmas Bird Count), or a by observing a known roost site from a distance.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing, binoculars.

Training

Volunteers should be able to properly identify several species of raptors flying overhead, or at a distance.

Habitat Evaluation

Note such things as habitat type (prairie, shrubland, forest, open water, etc.), dominant plant species if known, levels and types of human disturbance, and any other notable observations.

Migratory Landbird Species Concentration or Diversity Site

Criterion

(Dvii): The site supports an exceptional number or diversity of migratory landbird species (other than raptors), or at least 10 Cliff or Bank Swallow nests in natural, not human-created, nesting sites, or at least 10,000 roosting Purple Martins in migration. This would include sites that do not necessarily harbor large numbers of birds but that provide important habitat for more bird species than found at most sites. No absolute thresholds have been set owing to the scarcity of quantitative data. Sites should be clearly unique from other sites in the local area.

Questions

Does this site continue to meet the concentration/diversity criterion?

What is the habitat at this site that attracts a high concentration/diversity of bird species?

Project Goals

- To determine what bird species are present at the site, in what abundances, and in what seasons. Ideally individuals will be categorized by species.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale), precipitation, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

Migratory landbirds

The type of survey depends on the habitat types and area involved. Point counts and transects in areas with known populations or suitable habitat are usually appropriate for sampling many species over a large area. Points should be located 250-meters apart along trails and roads or established transects throughout the habitat. Point count radius should be 50 meters in forested habitat and 100 meters in open (grassland) habitat. Surveys should be conducted at each point for a period of 5 minutes during the primary migration (April 1 – May 31) or breeding period (June 1 – July 15) from daybreak until 10:00 AM. Surveys should be performed at least twice, seven days apart, during the height of the migrating or breeding season.

Swallows

Cliff and Bank Swallow population size and nest number can be counted directly at the colony site. Counts should occur shortly after sunrise before birds disperse. Roosting Purple Martins can be counted directly or by estimation by visiting a known roost site during the peak migration period and roosting time of day. To estimate size of a large flock estimate a block of birds and then use that block to measure the remainder of the flock.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing

Training

Volunteers should be able to properly identify several species by both sight and sound.

Habitat Evaluation

Note such things as habitat type (prairie, shrubland, forest, open water, etc.), dominant plant species if known, levels and types of human disturbance, and any other notable observations.

Single Species Concentration Site

Criterion

(D4i): The site supports a significant number of a particular species but supports a smaller total number of birds than any of the criteria above. The site should support many more of the species in question than other sites where the species occurs. Ideally, the site should be known to hold or thought to hold more than 1% of the state population of a species.

Questions

Does this site continue to meet the species concentration criterion?
What is the habitat at this site that attracts the particular species?

Project Goals

- To determine the number of individuals of a specific species found at a site.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale) and direction, precipitation, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

In general, sites that meet this criterion do so because of concentrations of species in the breeding or wintering season. The type of survey will greatly depend on the species being monitored. Often the monitoring of species covered in this criterion will be covered under another criteria. For example, if a survey is performed for waterfowl concentrations, and surveyors record numbers of specific species, they will obtain the information needed to verify this criterion as well.

For any colonial nesting or flocking bird, area counts (as described above in congregatory criteria) can be used to record number of specific species. For large breeding colonies, direct nest counts and searches (e.g. for gulls and terns) may be necessary (being sure to limit time within the colony to ensure low nest mortality). For other breeding species, point counts in areas with known populations or suitable habitat should be performed. Points should be located 250-meters apart along trails and roads or established transects throughout the habitat. Surveys should be conducted at each point for a period of 5 minutes during the primary nesting period between May 1 and June 30 from daybreak until 10:00 AM. Playback tapes can be used sparingly to illicit responses from males. The point count surveys should be performed at least twice, seven days apart, during the height of the breeding or wintering season of the target species.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing

Additional potential equipment: compass, playback tape, playback recorder and speaker

Training

Volunteers should be able to properly identify the target species by sight and sound and be familiar with playback methods.

Habitat Evaluation

Note such things as habitat type (prairie, shrubland, forest, open water, etc.), dominant plant species if known, levels and types of human disturbance, and any other notable observations.

Site Supporting Birds of Conservation Interest

Criterion

(D1): The site supports a significant population of an Arkansas Bird of Conservation Interest during the appropriate season(s).

Common Name	Breeding Threshold Individuals	Nonbreeding Threshold Individuals	Qualifier
Trumpeter Swan		30	
Mottled Duck	2	4	
Hooded Merganser	2	10	breeding
Northern Bobwhite	40	60	
Pied-billed Grebe	2	60	breeding
Anhinga	10	15	
American Bittern		6	
Least Bittern	4	6	
Little Blue Heron	40	60	
Tricolored Heron	2	4	
Black-crowned Night-Heron	10	20	
Yellow-crowned Night-Heron	10	20	
White Ibis	40	60	
Osprey	2	4	
Swallow-tailed Kite	2	2	
Mississippi Kite	10	15	natural areas
Northern Harrier	2	10	breeding
Yellow Rail		1	
King Rail	2	4	
Purple Gallinule	4	6	
Common Gallinule	40	60	
Piping Plover		2	
Buff-breasted Sandpiper		5	
American Woodcock	5	10	
“Interior” Least Tern	10	25	
Short-eared Owl		5	
Red-cockaded Woodpecker	4	6	
Ivory-billed Woodpecker	1	1	
Willow Flycatcher	2	4	
Loggerhead Shrike	5	15	
Bell’s Vireo	10	15	
Bank Swallow	10	50	
Bewick’s Wren	2	2	
Sedge Wren	2	10	
Marsh Wren		10	
Sprague’s Pipit		2	

Common Name	Breeding Threshold Individuals	Nonbreeding Threshold Individuals	Qualifier
Black-throated Green Warbler	5	30	breeding
Cerulean Warbler	5	10	
Worm-eating Warbler	10	15	
Swainson's Warbler	3	6	
Bachman's Sparrow	3	6	
Rufous-crowned Sparrow	2	5	
Grasshopper Sparrow	5	10	
Henslow's Sparrow	3	5	
Smith's Longspur		15	
Rusty Blackbird		60	

Questions

Does this site continue to meet the conservation interest species criterion?
What is the habitat at this site that attracts these species?

Project Goals

- To determine the number of individuals of all conservation interest species found at a site.
- To document the habitat at the site.

Data Required

See Datasheet. Data should include date, observer(s), site name, start and end observation times, temperature, cloud cover, wind speed (see Beaufort scale) and direction, precipitation, species, number of individuals of each species, notable behavior, landscape observations, human disturbances/threats, habitat type, and vegetative cover.

Methods

If conservation interest species are not captured under other surveys, monitoring efforts should be in the form of area, transect, or point counts. Surveys should target these species and take place during the appropriate season(s). Monitoring for this criterion should concentrate on changes over time and how these species use the site.

For any colonial nesting or flocking bird, area counts (as described above) can be used to record number of specific species. For large breeding colonies, direct nest counts and searches (e.g. for gulls and terns) may be necessary (being sure to limit time within the colony to ensure low nest mortality). For other breeding species, point counts in areas with known populations or suitable habitat should be performed. Points should be located 250-meters apart along trails and roads or established transects throughout the habitat. Surveys should be conducted at each point for a period of 5 minutes during the primary nesting period between May 1 and June 30 from daybreak until 10:00 AM. Playback tapes can be used sparingly to illicit responses from males. The point count surveys should be performed at least twice, seven days apart, during the height of the breeding season of the target species.

Equipment Needed

Map, pencils, notebook, watch, field guide, appropriate clothing
Additional potential equipment: compass, playback tape, playback recorder and speaker

Training

Volunteers should be able to properly identify the target species by sight and sound and be familiar with playback methods.

Habitat Evaluation

Note such things as habitat type (prairie, shrubland, forest, open water, etc.), dominant plant species if known, levels and types of human disturbance, and any other notable observations.