



ARIZONA  
IMPORTANT  
BIRD AREAS  
PROGRAM



*Arizona Important Bird Areas Program,  
Area Search Protocols for IBA Avian Surveys-*

*Annotated from: A guide for citizen IBA Bird Survey Teams in Arizona  
(Version 4.1, September 2006, AZ IBA Avian Science Program)*

The intent of this guide is to provide citizen bird surveyors the information to form Important Bird Area (IBA) Bird Survey Teams. It will introduce them to the appropriate bird survey types to use, the number of surveys to perform, and details on how to conduct each survey type. IBA Bird Survey Teams are a critical component of the IBA Program as they provide the field personnel to collect essential avian data. It allows birders to do work for the conservation of birds, while doing what they enjoy, birding in our great Arizona habitats!

The major emphasis of the IBA inventory and monitoring is to use trained volunteers who follow basic standard bird survey methods to obtain accurate species composition, breeding status, and abundance information by habitat type(s) at a particular site.

**Goals:**

1. Provide an inventory of birds using the site by habitat, and document breeding status.
2. Monitor change in composition of the avian community at the site.
3. Document changes in abundance of particular species at the site.

**To Begin:**

Select an Area and Build a Team:

Bird Survey Teams should be 2 to 4 people. Two-person teams, working together, and alternating roles (a primary observer and a data recorder/observer), work well. If you include an extra person on a team, particularly someone learning their birds, it will have long-term benefits to the program. A team of 4 people may also split in two groups, and cover different transects or area search plots within the site. We will work with your team to design a standardized survey effort, so that observer bias does not significantly affect the monitoring results. Special nest-census surveys may have up to 8 people.

Plan Bird Surveys:

Designing the survey route, habitat to be covered, and survey method. This will include development of a survey plan (i.e., how many surveys), data reporting, and data exchange.

Why are there different survey methods and what is each used for?

In brief:

Different survey methods are meant to provide repeatable and efficient data collection methods, depending on the species of interest, habitats of interest, regional geographic and local landscape configuration of habitat, and desired biological parameter (numbers of breeding birds, roosting birds, passage birds, or over-wintering birds). More intensive surveys can assess territory numbers and locations, productivity, territory occupancy over time, annual survival, and recruitment.

Summary of survey types and the habitat for which they are best suited:

Basic Line Transect

Linear Woodland or Riparian habitat  
Desert scrub or Grassland  
Canyon or Habitat with very steep terrain  
Long River or Large Lake (from watercraft)

Area Search

Forest Tract or small habitat patch

Basic Point Counts

Basic point counts are a technical survey that can be added to the above surveys. This survey requires an advanced (trained) team to provide a more technical standard of avian monitoring. It is designed to document breeding season abundance of certain species and to detect changes in species abundance related to management. {Additionally, a very Intensive Point Count method involving variable distance sampling can be used to provide better data for density information, a method not described in this document}.

Linear Woodland or Riparian habitat  
Large forest tracts  
Large areas traversed by car  
Backcountry sites  
Medium to large restoration sites  
Medium to large sites where management actions are taking place

Census

Wetlands (for waterfowl, wading birds, shorebirds)  
Small to medium Lake (for waterfowl, wading birds, shorebirds)

Other special survey needs and appropriate survey methods:

Nests of a given species (Large species): Census  
Nests of a given species (medium and small species): Area Search  
Raptors (breeding): Census  
Waterfowl (breeding): Census  
Wading Birds (breeding) Census  
Shorebirds (breeding): Census (Avocets/Black-necked Stilts) or Area Search (med. & small species)  
Passerines nests: Area Search

**The Protocols:**

***Descriptions of Survey Type:***

Area Search Surveys

The Area Search method is used when the entire habitat area you wish to survey can be freely traversed, without undue obstacles, and surveyors are prepared (and appropriate time is available) to traverse the entire area. The standard is an area of 300 m by 200 m (6 ha) covered in 40 minutes}.

Area Search surveys are used when you have a delineated habitat patch that you wish to survey. If the “area” is not obviously delineated by habitat or human boundaries, then permanent markers must be in place, and the team should have an enlarged photographic map, with the survey area delineated, to use while conducting the survey.

Surveys should ideally be started within a ½ hour of sunrise and completed by late morning (preferably before 11:00 am).

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Optional photo monitoring of your survey area:

- A. Be sure to locate a fixed point from which you take the photo every time you conduct the survey. This will yield a qualitative record of habitat type/condition changes over time. Ideally, locate a point with GPS in the middle of the area to be searched.
- B. Take four photos for each compass cardinal point (north, south, east, west).

Time your survey. Use this time as the “standard” for your survey. Try to stay within  $\pm 10$  minutes of your survey time each time you run the survey. If you need to “stop the clock” for a difficult bird identification, you may do so. You may then extend your survey time correspondingly.

Record an “observation” each time you encounter one or more individuals of a given species. Each bird observation gets its own data line on the datasheet (important!).

#### A. Area Search Cover Sheet.

Fill this out for each new transect surveyed in that day (except for the observer information).

1. Area Search Block name
2. Fill out time begin and time end (in military time). Record total survey time.
3. Estimate area dimensions and total area.
4. Direction of travel should be in  $\frac{1}{4}$  cardinal directions, and written as follows: NE-SW.
5. Weather data should be recorded at the beginning, middle, and end, but notable changes in weather can be also made at intermediate points. Remember to note the time weather data was taken, and note that time (in the margin) on the Transect Data Sheet, so that we can assign new weather data to bird observations that follow your new weather data (update).

#### B. Area Search Data Sheet.

Write location (name of the site, i.e., “Lower Oak Creek”), Date, Sheet number, Area Block Name/no. (i.e., “Page Springs Riparian” or a number), Primary habitat (by code), and Secondary habitat (by code).

1. Species is the first data field you fill in for each observation. You may use standard alpha codes (we will provide), common names, or short hand names, as long as the species identified is unambiguous.
2. Record whether the bird was detected by *Audio* or *Visual* methods by the IBA Team (write “A” or “V”). Visual observations can include birds you also hear. Auditory detections are those detections that you only hear the bird(s). Do not record both codes. Note point count methods for recording this data differ.
3. Record the number of birds (of a species) you see together for each observation. This goes under the data field “count” on the datasheet.
4. If the “count” is an estimate, then check the “Est.?” box. Most of the time you will not be checking this box. In fact, most of your counts will be 1 (a single bird alone) or 2 (a pair of birds together—essentially in the same “spot”, e.g., same branch, tree, shrub, etc.). In cases where a large flock of birds, e.g., Mourning Doves, flushes in front of you and you never are able to get a count, but instead take a quick estimate of “300” (or you do a size grouping number estimate to give you a rough count e.g., 50-100-150-200-250-300 without actually counting) then you would check “estimate.” Also, if you have a flock moving through and you estimate the number in each little sub-group, and then added them up, that would also be an estimate.
5. If the bird(s) observation was a supplemental observation, that is an observation made beyond the area boundary, or a “fly-over” (i.e., above the tree top level, in route across the landscape, and not foraging), then check the Supplemental, “Supp.?” box. If birds are observed flying above the habitat (or outside the area) upon initial observation, but then subsequently fly into the habitat (tree canopy level and below)

within the area zone, they are then not considered “supplemental birds.” Foraging birds above the habitat, within the area boundary, such as swallows, raptors, vultures, and other birds, are also not considered “supplemental birds.” We assume they are actively using the habitat (i.e., the aerial space associated with the habitat) to forage for prey.

6. Record number of males and females where discernable.
7. Record the number of juvenile birds when young of the year are encountered.
8. Record the number of sub-adults when they are distinguishable. Juveniles become Sub-adults on January 1 by convention.
9. Record the habitat type for the bird observation if it is not in either of the primary or secondary habitats listed above on the data sheet. Use the habitat codes provided.
10. Record breeding behavior, use codes provided. This is especially important to discern correctly. Note “territory display” behavior is recorded
11. If a nest is seen in relation to the encounter/observation, then record a Y under “Nest” for yes.
12. Comment. Use for any comments. If an active nest is found, particularly a raptor nest or a nest of a species of conservation concern, we recommend that a GPS receiver is used to its UTM coordinates (assuming a GPS is available). For consistency, set GPS receivers “map datum” setting to NAD27 UTM.

\*We encourage you to also record signs of other wildlife (e.g., tracks, scat, etc.), and record this information on the data sheet wherever space exists. These observations will be put in a companion database for the site.

### ***Number of Surveys:***

#### **Line Transect and Area Search Surveys:**

- Complete one survey per season. Use Arizona seasons if in desert zone. ‘Arizona seasons’ includes the addition of an early spring nesting survey, and a late summer survey following the initiation of monsoon rains. The numbers of surveys recommended are: 5 (minimum) good, 7 very good, 9 (includes 2 nocturnal) excellent.

1-January

1-Late March/Early April (desert spring nesting)

1 to 2-Late April thru May 21 (migration)

1-Mid July (after monsoon rains)

1 to 2-Early September (migration) or for two surveys: Late August and mid-September.

#### **Additional Needs: Habitat/Site Reports and Additional Information Collection**

If you know of data that exists on vegetation sampling, hydrology monitoring, or other types of biotic or abiotic monitoring, please let our IBA staff know this information (i.e., who is else is conducting research and their contact information). We are striving to integrate the IBA Program with other monitoring efforts such that we might cover the full spectrum of elements in a true habitat assessment. Broader data knowledge may help us to understand and summarize the environmental health to the land managers and agencies we may be working with to conserve and protect these sites.