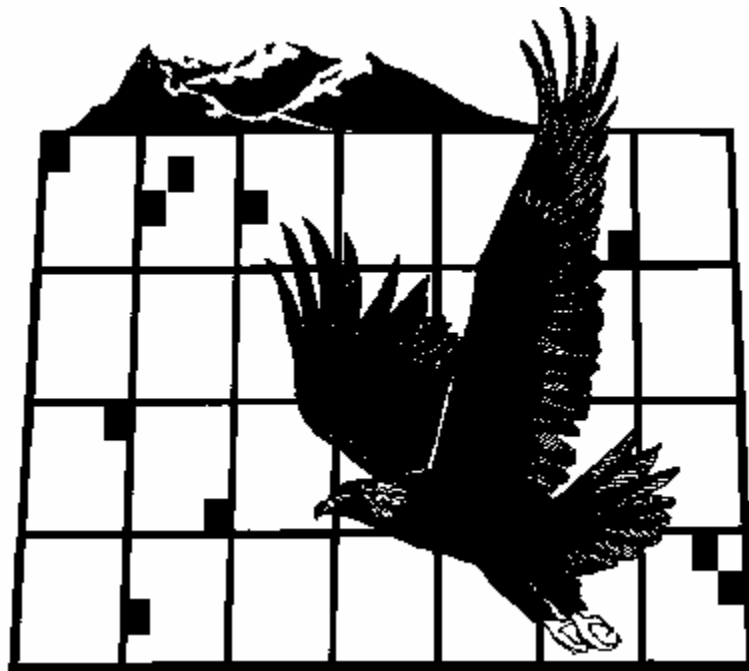


Atlas II

The Second Colorado Breeding Bird Atlas



Field Worker's Handbook

July 2007

Atlas II

The Second Colorado Breeding Bird Atlas

Field Worker's Handbook

by Hugh E. Kingery and Tony Leukering
July 2007

Table of Contents

Table of Contents.....	i
Purpose	1
Scope.....	1
Atlas Organization.....	1
Figure 1. Depiction of blocks on a USGS quadrangle	2
Figure 2. Selection of priority and alternate blocks for Atlas II.....	2
Conduct of Field Work.....	3
Adequate Coverage goals.....	3
Field Packet	4
Submittal of Reports.....	5
Block Information	6
Breeding Codes and Their Interpretation.....	7
Observed	7
Possible.....	7
Probable	7
Confirmed.....	8
On Subspecies, Hybrids, and Difficult Identifications	10
Habitat.....	12
Abundance	13
Table 1. Abundance codes, their explanation, and examples in use for Atlas II.....	13
Non-priority Blocks	13
Field Activities.....	14
Income Tax Deduction.....	16
Use of Atlas Data	16
Acknowledgements	16
Literature Cited	16
Appendix A. Habitats and their codes, descriptions, dominant vegetation components, and typical bird species (where useful).	17
Atlas Ethics	21
Atlas II Volunteer Placard	22

Purpose

The Colorado Bird Atlas Partnership (CBAP) has enlisted you to help map the breeding birds of Colorado on a detailed scale never before attempted in the state. We seek to determine what species of birds breed in Colorado, where, in what habitats, and in what numbers.

Yes, Colorado already has a published Breeding Bird Atlas, but as is typical of these efforts, they are most useful when repeated at regular intervals, with the typical interval being 20 years. The results of the second Colorado Breeding Bird Atlas will have a number of practical and scientific uses:

- wildlife management and planning,
- environmental impact statements,
- documentation of unique and fragile wildlife habitats,
- comparison with results of the first Colorado Breeding Bird Atlas,
- baseline data additional to those of the first Colorado Breeding Bird Atlas,
- increased knowledge about Colorado birds, and
- scientific research on avian biology, including detailed accounts of breeding phenology of Colorado's breeding-bird species.

This handbook provides guidelines on how to participate. Despite the lengthy set of instructions, atlas work is not at all complicated – one simply goes birding, but with a bit more focus. We're sure that you'll find it fun and rewarding. If you have any questions, contact your Regional Coordinator or the Atlas office.

Scope

Field work has two main objectives: 1) to find every species that breeds in each block (see below) and 2) to confirm breeding of as many species as possible in that block. Obviously, no one will find every species in a given block, but field workers should aim to find as many as possible. As a field worker, you need to confirm a species only once in a block. That is, one American Robin nest means that the species is confirmed for that block for the duration of the Atlas II project.

Atlas field work will occur during the five years, 2007-2011, with, perhaps, an extension to 2012 should completion of the project demand it. Field workers will collect data for atlas blocks of a little more than three miles on a side (about 10 square miles). With two blocks per U.S. Geographical Survey (USGS) 7.5" topographic quadrangle, we will attempt to survey 3584 blocks.

Atlas Organization

Administration – The CBAP has designed the scope and details of the Atlas II project and acts as the Steering Committee. In 2007, CBAP hired the Rocky Mountain Bird Observatory to conduct the effort that organization's office in Brighton, CO. In December of 2007, however, management of the Atlas II project was awarded by the Colorado Division of Wildlife to the San Juan Institute of Natural and Cultural Resources (SJINCR), Fort Lewis College. It is anticipated that SJINCR will continue to manage the project through its completion. Volunteer Regional Coordinators (RC) serve as contact to the field workers in their respective regions.

Block selection – As in the first Colorado Breeding Bird Atlas (First Atlas), CBAP has decided to use USGS topographic 7.5" quadrangles (quads) as the basis of the block selection for the Atlas II project.

Each quad illustrating some part of Colorado was divided into halves vertically and thirds horizontally to produce six blocks of roughly equal size (Fig. 1). The First Atlas selected the southeast (SE) block of each quadrangle to be the block in which to focus field work – that is, the priority block. While data were certainly accepted from any and all other blocks, field workers were requested to complete coverage in additional priority blocks on other quadrangles rather than conduct extensive effort in other blocks on the same quadrangle.

The First Atlas used the southwest (SW) and central-east (CE) blocks, in that order, as replacements for the priority block in cases where legal access was not possible in the SE block. In the very few cases in which all of those blocks were inaccessible, another block was arbitrarily selected as the priority block for the quadrangle.

CBAP has decided to survey in Atlas II the same block on each quadrangle that served as the priority block in the First Atlas, whether it was the SE block or not, and to retain the SW and CE blocks, in that order, as alternates. In addition, CBAP has selected a second priority block on each quadrangle – the CW block – so that there will be two priority blocks per quadrangle (Fig. 2). In the very few cases where the CW block was used as the priority block in the First Atlas and where we cannot gain access to any of the other pre-selected options (SE, SW, and CE in that order), then the Atlas office will select one of the two north blocks as the second priority block. Even though there will be two priority blocks per quadrangle in Atlas II, CBAP would greatly prefer you to complete the First Atlas priority block on a quadrangle before tackling that quadrangle’s second (CW) priority block. In fact, in the first field work year, 2007, we will not authorize field work in the second priority block of a given quadrangle. **All uses of alternate blocks as priority** blocks must be authorized in the Atlas office.

NW	NE
CW	CE
SW	SE

Fig. 1. Depiction of blocks on a USGS quadrangle.

Priority 2	Alternate 2
Alternate 1	Priority 1

Fig. 2. Selection of priority and alternate blocks for Atlas II.

Conduct of Field Work

Surveying blocks – Ideally, we aim to record every species breeding in a given block, but as a practical matter, we cannot achieve the goal. In each block, you should survey each different habitat – stream bottom, various conifer forest types, deciduous woodlands, shrubland, field, etc. One can find the various habitats in a given block by studying the map of the block and by reconnoitering the block.

Depending upon the number of habitats present in a block, once you have spent 20 hours in it, you will probably have reached a point of diminishing returns, that is, it will take many more hours to find the few species that you have missed. Therefore, we suggest that you set a goal of 20 hours of field work per block (but, see comments under Adequate Coverage). Though you may complete coverage of a block in one year or in five – field work is cumulative over the life of the project – we would prefer that you complete your first block and move on to another one.

Blocks with a large diversity of habitats may require more time to complete. Conversely, blocks with uniform habitat hosting only a small number of breeding species (e.g., some shortgrass prairie blocks) may require fewer hours of effort. However, most blocks will host several habitats and each merits field work.

Breeding criteria – We use set criteria to determine breeding status. Essentially, these establish species as Confirmed, Probable, or Possible breeders. You do NOT have to find a nest to confirm local breeding, as other evidence – such as an adult feeding young out of the nest – will serve to confirm breeding. Details on the various criteria can be found beginning on page 7. **HOWEVER, BEWARE OF MIGRANTS!**

Study the criteria before you go into the field so that you understand them and develop a familiarity; accurate data depend upon using the correct codes. Record ***all*** breeding criteria (using the codes) that you observe (up to four) in each block, each day. For those involved in the First Atlas, this aspect of data recording is different, as field workers were requested to report only the highest breeding category observed. As one of the subsidiary uses of the data from Atlas II will be a well-defined breeding phenology for as many species as possible, we will require all breeding behaviors observed for each species in each block (or, at least as many as fit on the field card – four).

Adequate Coverage, additional blocks – Because we are attempting to canvas such a large percentage of Colorado's diverse topographical and geographical features, we have to limit the project by the possible, rather than to attempt the impossible. Therefore, we have set goals to define Adequate Coverage of the blocks. When you have met the criteria of Adequate Coverage, we invite, encourage, and otherwise beseech you to tackle another block, either close to or far from home. Check with the Atlas II website, your RC, or the Atlas office for availability of other blocks.

Adequate Coverage goals

- A. Cover all habitats.
- B. Spend 10-40 hours, depending upon the variety of habitats, in the block; 20 hours should suffice for most blocks.
- C. Confirm at least half the species recorded in the block.
- D. Take at least one night trip for nocturnal species.

The diversity of habitats present in the block determines the number of species; the number drops with increasing elevation and decreasing habitat diversity. Ideally, Adequate Coverage will consist of four 4-hour morning trips spaced through the nesting season (which see), plus one or more night trips. You and your RC can judge the adequacy of coverage. When you have achieved Adequate Coverage, we again suggest that you move on to another block. Of course, if you live in your block or for some other reason spend a lot of time in it anyway, keep watching and keep recording.

Field Packet

The field worker's packet consists of:

Field Worker's Handbook (1/atlaser)	Map (1/quadrangle)
Manual on Use of Breeding Codes (1/atlaser)	Verification Forms (1/atlaser)
Field Cards (8/block)	Nest Record Cards (5/atlaser)
Block Master Sheet (1/block)	Atlaser ID Card (1/atlaser)
	Landowner Letter (1/atlaser)

Field Worker's Handbook – You are currently reading it. The back cover can be used to identify your vehicle as one being used by an Atlas II volunteer.

Breeding Codes Manual – This document explains in detail codes relevant to each species expected as a Colorado breeder during Atlas II and is *de rigeur* for conducting field work.

Field Card – You will need a single Field Card for each day in each block. You may keep track of your data by using the field card or your own system, but be sure to transcribe all data recorded onto a Field Card before submitting to the Atlas office. However, we recommend using the Field Card, as errors are rather easily introduced when transcribing data. The Field Card lists only species that, in all likelihood, will be found breeding in more than six blocks. It lists no species that are not regular (that is, annual) breeders in Colorado, so excludes some very common birds that are typically found in the state only as wintering birds or as migrants. See the more extensive explanation of the Field Card in the next section of this handbook.

Block Master Sheet – This enables you to track your data through the course of one or multiple field seasons in a given block.

Map – The USGS 7.5" topographic quadrangle that illustrates your block (outlined on the map); it's a handy-dandy tool for the fine detail of your block. You can also obtain such maps from stores throughout the state or from the USGS Information Services, Box 25286, Denver 80225 or call 1-888-ASK-USGS.

Verification Form – This form is used for documenting rare breeding records, such as for species not on the Field Card or species out of range and/or habitat (e.g., Grasshopper Sparrow in Mesa Co. or Juniper Titmouse in Boulder Co.). For localized breeders not presented on the Field Card found at typical breeding locales (e.g., American White Pelican at McFarlane Reservoir, Jackson Co., White-faced Ibis at Adams Lake, Rio Grande Co.), you can forego submitting this form. However, if you find such species away from known sites or are not sure whether the site has a history of breeding by that species, please err on the side of caution and fill out and submit a Verification Form to document

