

eBird Basic Dataset Metadata (v1.15)

revised 12 Jul 2023

1.15 updates: *A revised process for the handling of Sampling Event Data is recommended and a new section on Sampling Event Data is added on page 2 (and the previous page 8 section is removed). Other minor changes include revisions to the annual timetable described under TAXONOMY, addition of exotic code to the list of edits that can trigger a change to the LAST EDITED DATE field, minor corrections for clarity, and significant revisions for clarity in these sections: TAXONOMY, RECORDS "IN REVIEW", GLOBAL UNIQUE IDENTIFIER, SAMPLING EVENT IDENTIFIER, ALL SPECIES REPORTED, GROUP IDENTIFIER, IBA CODE, APPROVED*

CHARACTER SET – eBird is a global database, with a need to display characters in a variety of languages. We use the Unicode UTF-8 character set to accomplish this. When opening this file in Excel or any text editor, you must first specify the proper character set to ensure that all characters display correctly. In Excel, this process means using the 'Text import wizard', and then setting the file origin field to Unicode UTF-8 before opening the file.

DATA INCLUDED – This dataset includes all records treated as "Accepted" in eBird, including those that have been reviewed and accepted by eBird reviewers as well as those that are not flagged as unusual. See APPROVED, REVIEWED, and REASON fields below to better understand this.

TAXONOMY – We use the eBird/Clements taxonomy for the species-level taxonomy and nomenclature for eBird. Please see our [eBird taxonomy](#) page for more information on the species lists used in eBird as well as downloadable versions of the full taxonomy. The eBird/Clements taxonomy is the reference source for information contained within the following fields: Taxonomic Order, Category, Common Name, Scientific Name, Subspecies Common Name, and Subspecies Scientific Name. This taxonomy is updated once annually in October to conform with the latest science; therefore, the version of the EBD including records through October (extracted in mid-November) be revised to the latest taxonomy. Note however that the transition to the new taxonomy requires updating of large numbers of records and sometimes this process will not be fully completed until the January EBD version.

RECORDS "IN REVIEW" – The "Unvetted" dataset also includes records flagged as unusual but not yet acted upon by reviewers. These records should be used with caution

and should be assessed on their merits by the analyst. Unvetted data, when requested, will be provided in a separate .txt file from the EBD and have a file name ending with “_unvetted.txt”.

SENSITIVE SPECIES – Certain taxa that are at risk from targeted hunting or other pressures are not included in this dataset. Observations are considered Sensitive either globally, by country (e.g., Indonesia) or by state (e.g., Wisconsin, US). They can also be Sensitive year-round or only within a certain date range (e.g., 5 March-25 August).

See the [Sensitive Species policy and list of species](#).

Sensitive Species data can be requested by emailing us at ebird@cornell.edu with the subject line written exactly "Sensitive Species Data Request". In the email please indicate the species you are interested in and a brief abstract of the proposed data use.

SAMPLING EVENT DATA

eBird’s data are a richer source of information when both the presence and the absence of a taxon on a given checklist (i.e., sampling event) are taken into account (e.g., see Guillera-Arroita et al. 2015). The EBD by itself is a form of “presence-only” data, with one record for each taxon (typically species) reported. Information about non-detections (“absences”) can be added by additionally downloading the Sampling Event Data (SED, which has a file name ending with “_sampling.txt”) that contains one row for each eBird checklist in that region, including the date, time, location, and the amount of search effort expended, but no information about bird species. For complete checklists—checklists for which observers indicated that all detected species were reported—if there is a record in the SED but no record of a species in the EBD or unvetted data, then a count of zero individuals of that species can be inferred, creating the non-detection/absence information. The R package auk (described below) is designed to create these non-detection/absence records. Downloading both EBD and SED is highly recommended. Importantly, checklists that report zero species will not have any records in the EBD but will appear in the SED. Any checklist treated as "Not Public" (see APPROVED below) is excluded from both the EBD and SED.

Guillera-Arroita, G., J. J. Lahoz-Monfort, J. Elith, A. Gordon, H. Kujala, P. E. Lentini, M. A. McCarthy, R. Tingley, and B. A. Wintle (2015). Is my species distribution model fit for purpose? Matching data and models to applications. *Global Ecology and Biogeography* 24:276-292.

RECOMMENDED R PACKAGE -- AUK

The auk R package has been developed by Cornell Lab staff and may prove useful for working with the EBD downloaded data. For more information, see:

<https://cornelllabofornithology.github.io/auk/>

eBIRD BASIC DATASET FIELDS

The below list names and describes the contents of all the data fields for the eBird Basic Dataset download file.

GLOBAL UNIQUE IDENTIFIER – A unique alphanumeric code assigned to each observation (of a single taxon within a single checklist) that stays with it through database revisions, updates, and edits.

LAST EDITED DATE – The date and time of the most recent edit to any observation on the checklist (see **SAMPLING EVENT IDENTIFIER** below); this is useful for determining whether an observation should be updated if a copy of these data is being stored locally. Edits include changes to any of the following:

- Location: e.g., latitude, longitude, location name, county, state, or country
- Submission: e.g., date, effort, complete checklist
- Observation: e.g., species, count, review status, exotic code, or other edits made by user or editor.

TAXONOMIC ORDER – The numeric value assigned to this taxon in the eBird/Clements taxonomy to arrange the species in the latest taxonomic sequence.

CATEGORY – The category (e.g., species, hybrid, slash) assigned to this taxon in the eBird/Clements taxonomy. A full description of these categories is here: <https://support.ebird.org/en/support/solutions/articles/48000837816>.

TAXON CONCEPT ID – Unique taxonomic identifier meant to identify a specific taxonomic concept. The same English or scientific name may be applied to different populations over time, even across versions within a single taxonomy. A Taxon Concept ID refers to a population with shared characteristics and a specific range circumscription and not to the treatment of these populations within a specific taxonomy. For example, when well defined subspecies or subspecies groups are elevated to species level (i.e., a split), the Taxon Concept ID will not change even though the common and scientific names will change. A change to the genus or the spelling of a scientific name will not result in a change to the Taxonomic Concept ID. Taxon Concept IDs are the best way to track taxonomic changes through time or across datasets; note that the **TAXON CONCEPT ID** applies to the most specific identification offered, so if the **SUBSPECIES COMMON NAME** and **SUBSPECIES SCIENTIFIC NAME** fields are populated, the **TAXON CONCEPT ID** applies to those taxa; if not, **TAXON CONCEPT ID** applies to the **COMMON NAME** and **SCIENTIFIC NAME** fields. We use the Taxon Concept IDs developed and maintained by Avibase (<https://avibase.bsc-eoc.org/>) which also maintains linkages between taxonomic authorities and versions through time. **Example:** In 2021, eBird

lumped Northwestern Crow (*Corvus caurinus*) with American Crow (*Corvus brachyrhynchos*), resulting in no name change for American Crow but a substantial change in the range of American Crow, since populations in coastal British Columbia and Alaska are now included in American Crow (*Corvus brachyrhynchos*). Consequently, this split results in 1) deletion of Northwestern Crow (*Corvus caurinus*) from the dataset; 2) conversion of all those former Northwestern Crow records to American Crow (*Corvus brachyrhynchos*); 3) change in the TAXON CONCEPT ID for American Crow (*Corvus brachyrhynchos*) from avibase-9E9F2476 to avibase-69544B59. Thus, the TAXON CONCEPT ID helps to track taxonomic changes, including those where the name might not change, such as American Crow (*Corvus brachyrhynchos*).

COMMON NAME – The primary English common name of the taxon in the eBird/Clements taxonomy.

SCIENTIFIC NAME – The scientific name of the taxon in the eBird/Clements taxonomy.

SUBSPECIES COMMON NAME – The common name of the subspecies or subspecies group in the eBird/Clements taxonomy. Certain other taxa (such as intergrades, and certain forms and domestics) also included here.

SUBSPECIES SCIENTIFIC NAME – The scientific name of the subspecies or subspecies group in the eBird/Clements taxonomy. Certain other taxa (such as intergrades, and certain forms and domestics) also included here.

EXOTIC CODE – Exotic Codes are applied to eBird Observations (i.e., any unique GLOBAL UNIQUE IDENTIFIER) when the species is believed to be exotic (i.e., non-native); observations of taxa native to the region will have a null value in this field. The three Exotic Codes are: N (Naturalized), P (Provisional), and X (Escapee). Exotic Codes are defined by eBird and applied as part of the eBird Review Process by eBird reviewers, using both an automated and manual process. See Exotic Species in eBird <https://docs.google.com/document/d/1VHA1bpLI5zOk89WtbytUMfJME567SGRJUrHxmSr7Or8/edit?usp=sharing> for more information. The full definitions of these Exotic Codes are as follows:

- **N (Naturalized):** *Exotic population is self-sustaining, breeding in the wild, persisting for many years, and not maintained through ongoing releases (including vagrants from naturalized populations). These count in official eBird totals and, where applicable, have been accepted by regional bird records committee(s).*
- **P (Provisional):** *Either: 1) member of exotic population that is breeding in the wild, self-propagating, and has persisted for multiple years, but not yet Naturalized; 2) rarity of uncertain provenance, with natural vagrancy or captive provenance both considered plausible. When applicable, eBird generally defers to bird records committees for records formally considered to be of “uncertain provenance”. Provisional species count in official eBird totals.*

- **X (Escapee):** *Exotic species known or suspected to be escaped or released, including those that have bred but don't yet fulfill the criteria for Provisional. Escapee exotics do not count in official eBird totals.*

OBSERVATION COUNT – The count of individuals of a given taxon (each with unique values for TAXON CONCEPT ID, COMMON NAME, and SCIENTIFIC NAME) made at the time of observation. If no count was made, an 'X' is used to indicate presence.

BREEDING CODE – The highest-level breeding information reported for the species on a given checklist. The Breeding Code will reflect the value entered by a user except in cases where reviewers of atlas data have deemed it a likely typo or other error; in those cases, the original Breeding Code will appear on the public eBird checklist, but the corrected code is provided in the data here. For a complete list of codes and their definitions see Appendix 1.

BREEDING CATEGORY – Four categories used to describe a species' breeding status based on the 'BREEDING CODE' reported on the eBird checklist: C1 – Observed; C2 – Possible; C3 – Probable; C4 – Confirmed. In most cases, these are the default values corresponding with the breeding code reported by the observer. But in some cases reviewers of atlas data may reinterpret a breeding category, and that reinterpretation is reported here. For instance, a tern species might be seen carrying food (typically C4 – Confirmed), but since terns feed young away from the nesting area it would be reinterpreted as a lower breeding category. For more information on reinterpretation of breeding codes, see this document:

<https://support.ebird.org/en/support/solutions/articles/48000837520>

BEHAVIOR CODE – The highest level behavior reported for the species on a given checklist. In most cases, this will match the BREEDING CODE, but it will differ when reviewers of atlas data have revised the data so that the reported code reflects a behavior code, with a lower code applied as the breeding code (e.g., a migrant songbird singing on migration in places where it doesn't breed: would have S for BEHAVIOR CODE, but no BREEDING CODE). Note that atlas reviewers may also correct codes that are consider erroneous; in these cases this will show as a correction on the public eBird checklist but it is not captured. For a complete list of codes and their definitions see Appendix 1.

AGE/SEX – The reported number of each age and sex combination for a species on a given checklist. Age categories are: adult, immature, and juvenile. Sex: male, female, and unknown.

COUNTRY – The country where the observation was made. Follows [ISO 3166-2](https://www.iso.org/standard/51061.html). Country names and codes used in eBird can be downloaded from this page:

<https://support.ebird.org/en/support/solutions/articles/48000838205>

COUNTRY CODE – Abbreviation for country name. Follows [ISO 3166-2](#). Country names and codes used in eBird can be downloaded from this page:

<https://support.ebird.org/en/support/solutions/articles/48000838205>

STATE – The state/province where the observation was made. Follows [ISO 3166-2](#). State/province (or subnational1) names and codes used in eBird can be downloaded from this page: <https://support.ebird.org/en/support/solutions/articles/48000838205>.

STATE CODE – Abbreviation for state/province name. Follows [ISO 3166-2](#). State/province (or subnational1) names and codes used in eBird can be downloaded from this page: <https://support.ebird.org/en/support/solutions/articles/48000838205>.

COUNTY – The county where the observation was made. No international county standard is available, so the best available county layer is used when available. County (or subnational2) names and codes used in eBird can be downloaded from this page: <https://support.ebird.org/en/support/solutions/articles/48000838205>.

COUNTY CODE – Alphanumeric code representing county name in this format COUNTRY-STATE-COUNTY (e.g., US-AK-016). County (or subnational2) names and codes used in eBird can be downloaded from this page: <https://support.ebird.org/en/support/solutions/articles/48000838205>.

IBA CODE – The alphanumeric code for an Important Bird Area. If an observation falls within an IBA, it is given this code. Some locations may fall in multiple IBAs and when that happens, these IBA codes are delimited in the field with a pipe ("|"). A list of codes and their corresponding site names is included in the metadata bundle (IBACodes.txt). For more information on IBAs see <https://www.birdlife.org/projects/ibas-mapping-most-important-places/>.

BCR CODE – The alphanumeric code for a Bird Conservation Region. If an observation falls within a particular BCR, it is given this code. A list of codes and their corresponding site names is included in the metadata bundle (BCRCodes.txt). More on BCRs here: <http://www.nabci-us.org/bcrs.htm>.

USFWS CODE – The alphanumeric code for a United States Fish and Wildlife Service land holding. If an observation falls within a particular USFWS polygon, it is given this code. A list of codes and their corresponding site names is included in the metadata bundle (USFWSCodes.txt).

ATLAS BLOCK – Sampling units called blocks have been established for specific atlas projects run within eBird. Blocks are established using a grid system (for example, in the United States these are based on 7.5-minute topographic quadrangle maps (quads) prepared by the U.S. Geological Survey). Each quad has a unique identifier. For atlas purposes, each quad is divided into 6 blocks, each roughly 3 x 3 miles and encompassing

about 23 sq km (9 sq mi). Each block has been coded with a 2-letter code: either northwest (NW), northeast (NE), center-west (CW), center-east (CE), southwest (SW), or southeast (SE). ATLAS BLOCK is only assigned to a record when an eBird Atlas PROJECT CODE (see below) is selected by the observer. See the list of eBird Atlases here:

<https://ebird.org/about/portals/>

LOCALITY – The reported location name for the observation. Observers can give locations their own names, or choose from existing locations (eBird Hotspots, see <https://ebird.org/ebird/hotspots/>).

LOCALITY ID – Unique alphanumeric code for a location.

LOCALITY TYPE – In some cases location names can be confusing. This code is meant to help define the type of location used, as participants in eBird can plot specific locations on a map (P), choose existing locations from a map (H), or choose to submit data for a town (T), postal code (PC), county (C), or state (S). Abbreviations: State (S), County (C), Postal/Zip Code (PC), Town (T), Hotspot (H), Personal (P).

LATITUDE – Latitude of the observation in decimal degrees.

LONGITUDE – Longitude of the observation in decimal degrees.

OBSERVATION DATE – Date of the observation expressed as year-month-day (YYYY-MM-DD).

TIME OBSERVATIONS STARTED – The time observations were initiated based on the 24-hour clock (sometimes known as ‘military time’).

OBSERVER ID – Unique number associated with each eBird observer.

SAMPLING EVENT IDENTIFIER – The unique number associated with the sampling event (eBird checklist). Each sampling event has a unique combination of location, date, observer, and start time. For a sampling event to exist in the EBD it must contain observations of one or more taxa, all of which share this unique identifier. See section SAMPLING EVENT DATA near the top of this document; sampling events that record no taxa of birds will exist in that dataset and are important for establishing absences. The alphanumeric SAMPLING EVENT IDENTIFIER code is the final element of an eBird checklist link (e.g., <https://ebird.org/checklist/S40515915>).

PROTOCOL TYPE – The type of survey associated with this sampling event. For a complete list of protocol types, protocol codes, and their definitions see Appendix 2. The three main protocol types are:

- Traveling Count
- Stationary Count

- Casual Observation (which appears as "Incidental Observation" in data entry)

PROTOCOL CODE – This short alphanumeric code is used to identify the type of protocol. Each code is unique and used internally to identify the protocol. Each Protocol Code is tied to a unique Protocol Type. For a complete list of protocol types, protocol codes, and their definitions see Appendix 2.

PROJECT CODE – While all the data in this dataset come from eBird, this field is used to designate which portal the data came through. Portals can be regional (e.g., eBird Chile or aVerAves) or project-based (e.g., Wisconsin Breeding Bird Atlas, Bird Conservation Network eBird). See <http://ebird.org/content/ebird/about/portals/> for a full list of portals.

DURATION MINUTES – The duration of the sampling event reported in minutes.

EFFORT DISTANCE KM – The distance traveled during the sampling event reported in kilometers.

EFFORT AREA HA – The area covered during the sampling event reported in hectares.

NUMBER OBSERVERS – The total number of observers participating the sampling event.

ALL SPECIES REPORTED – A critical field that separates eBird checklist data from most other observational datasets. Observers answer 'yes' to this question when they are reporting all species detected by sight and by ear to the best of their ability on a given checklist (sampling event). Observers answer 'no' to this question when they are only reporting a selection of species from an outing, usually the highlights or unusual birds. When observers report all species it allows one also to infer which species were not detected. Given sufficiently large samples of records with ALL SPECIES REPORTED in a region, it is possible to estimate the probability that a nondetection represents the true absence of a species. (1 = yes; 0 = no).

GROUP IDENTIFIER – When multiple observers participate in the same sampling event, they can share checklists. If a checklist is shared between multiple observers (i.e., multiple copies of the original checklist are created from the original checklist, with one copy for each observer with whom the original checklist is shared), this group of duplicate checklists is given a GROUP ID number. These checklists can be edited by each observer so may or may not be exact copies in terms of the taxa involved, counts, comments, or even effort. **Use this number to eliminate duplicate data when multiple observers are sharing data.**

HAS MEDIA – Indicates whether a particular observation of a taxon is supported by rich media stored at the Cornell Lab of Ornithology's Macaulay Library (<http://macaulaylibrary.org/>). If an observation has media, the media are displayed in

the eBird checklist view (e.g., <https://ebird.org/checklist/S40515915>, see "SAMPLING EVENT IDENTIFIER" above) and on the Macaulay Library specimen page for the observation.

APPROVED – The status of the record within the eBird data quality process. If "Accepted", the record is deemed acceptable. If "Not Confirmed" the record has been deemed unacceptable by our review processes. Note that the eBird data quality process reviews the accuracy of both the checklist and the observation; when an entire checklist is marked "Not Public" in eBird (e.g., because the location is inaccurate or the checklist applies to multiple dates), all records are treated as "Not Confirmed" and are not included in this dataset. "Not Confirmed" records that have not yet been reviewed (see REVIEWED below) are included in the unvetted dataset only (see RECORDS "IN REVIEW" above). Unvetted data can be requested by checking the box "include unvetted data" on the download page with your data request. Unvetted data come in a separate file, and have not yet been reviewed by our regional editor network. It is not advisable to use unvetted data in any kind of analysis (1 = yes; 0 = no).

REVIEWED – "Not Reviewed" means that the record passed through our automated filters without problems, that the species, date, and count were within expected levels, and that the record has otherwise not been reviewed by a reviewer. "Reviewed" means that the record triggered a higher-level review process, either through an automated or manual process, and that it was vetted by one of our regional editors. (1 = yes; 0 = no).

REASON – The reason the record was "Not Confirmed". In this dataset, the only value that may appear is "Species-Introduced/Exotic" (see APPROVED above).

TRIP COMMENTS – General comments about the sampling event (checklist) provided by the observer.

SPECIES COMMENTS – Comments about this particular species observation provided by the observer.

Appendix 1 – eBird Breeding Code Definitions

The sequence of these breeding codes matches that shown during data entry on eBird and eBird atlases; the sequence of the codes represents the breeding code prioritization, with the better evidence for breeding listed higher in the list.

NY--Nest with Young – Nest with young seen or heard. Typically considered Confirmed.

NE--Nest with Eggs – Nest with eggs. Typically considered Confirmed.

FS--Carrying Fecal Sac – Adult carrying fecal sac. Typically considered Confirmed.

FY--Feeding Young – Adult feeding young that have left the nest, but are not yet flying and independent (should not be used with raptors, terns, and other species that may move many miles from the nest site). Typically considered Confirmed.

CF--Carrying Food – Adult carrying food for young (should not be used for corvids, raptors, terns, and certain other species that regularly carry food for courtship or other purposes). Typically considered Confirmed.

FL--Recently Fledged young – Recently fledged or downy young observed while still dependent upon adults. Typically considered Confirmed.

ON--Occupied Nest – Occupied nest presumed by parent entering and remaining, exchanging incubation duties, etc. Typically considered Confirmed.

UN--Used nest – Unoccupied nest, typically with young already fledged and no longer active, observed and conclusively identified as belonging to the entered species; note that this breeding code may accompany a count of "0" if no live birds were seen/heard on the checklist. Typically considered Confirmed.

DD--Distraction Display – Distraction display, including feigning injury. Typically considered Confirmed.

NB--Nest Building – Nest building at apparent nest site (should not be used for certain wrens, and other species that build dummy nests). Typically considered Confirmed, sometimes Probable.

CN--Carrying Nesting Material – Adult carrying nesting material; nest site not seen. Typically considered Confirmed, sometimes Probable.

PE--Brood Patch and Physiological Evidence – Physiological evidence of nesting, usually a brood patch. This will be used only very rarely. Typically considered Confirmed.

B--Woodpecker/Wren nest building – Nest building at apparent nest site observed in Woodpeckers (Family: Picidae) or Wrens (Family: Troglodytidae)—both species known to built dummy nests or roost cavities. Typically considered Probable.

T--Territory held for 7+ days – Territorial behavior or singing male present at the same location 7+ days apart. Typically considered Probable.

A--Agitated behavior – Agitated behavior or anxiety calls from an adult (ex. "pishing" and strong tape responses). Typically considered Probable.

N--Visiting probable Nest site – Visiting repeatedly probable nest site (primarily hole nesters). Typically considered Probable.

C--Courtship, Display or Copulation – Courtship or copulation observed, including displays and courtship feeding. Typically considered Probable.

T--Territory held for 7+ days – Territorial behavior or singing male present at the same location 7+ days apart. Typically considered Probable.

P--Pair in suitable habitat – Pair observed in suitable breeding habitat within breeding season. Typically considered Probable.

M--Multiple (7+) singing males. Count of seven or more signing males observed in a given area. Typically considered probable.

S7--Singing male present 7+ days – Singing male, presumably the same individual, present in suitable nesting habitat during its breeding season and holding territory in the same area on visits at least 7 days apart. Typically considered probable.

S--Singing male – Singing male present in suitable nesting habitat during its breeding season. Typically considered Possible.

H--In appropriate habitat – Adult in suitable nesting habitat during its breeding season. Typically considered Possible.

F--Flyover – Flying over only. This is not necessarily a breeding code, but can be a useful behavioral distinction.

Appendix 2. eBird Protocol Types and Definitions

The below protocols are current, active protocols available in eBird (<http://ebird.org>) for data entry. This list is sequenced as in eBird, with more common protocols at the top of the list. The corresponding Protocol Code is listed parenthetically after the name of the protocol (thus, "Traveling" uses protocol code P22).

Traveling (P22) – Observations made over a known period of time while traveling a known distance are classified as a Traveling Count. You should be able to estimate the distance that you traveled during your outing, which can be walking, driving, or even by boat. If you do have a reliable estimate of the area you covered while you recorded the species, consider entering your observations as an Exhaustive Area Count. If you aren't sure of the distance or area you covered, please enter your observation as a Casual Observation. Examples of Traveling Counts are: walking a trail at a local park, driving an auto loop at a National Wildlife Refuge, participating on a pelagic (boat) trip, or even birding while jogging through your neighborhood. Required Date/Effort fields: Date, Start Time, Duration, and Distance Covered.

Stationary (P21) – Observations made over a known period of time, but without any distance/area components, are classified as a Stationary Count. This does not mean you must stand completely still as you record the birds, but you should remain in an area approximately 30 meters (30 yards) in diameter while you are recording birds. If you move much farther than that, you should consider entering your observations as a Traveling Count or an Exhaustive Area Count. Examples of Stationary Counts are: a hawk watch, lake watch, or sea watch, or even sitting in your backyard for a period of time identifying birds. Required Date/Effort fields: Date, Start Time, and Duration.

Historical (P62) – Birding was the primary purpose, but start time, duration, or distance could not be estimated. This protocol allows start time, duration, and distance to be entered, but none is required. Required Date/Effort fields: Date

Incidental (P20) – Observations do not include or distance/area components are classified as Incidental Sightings. Examples of an Incidental Sighting are: an oriole that flies by while you are checking your mail, a hummingbird feeding in your backyard while you wash dishes, a grouse just off the side of the road while you drive to work, or a flock of waxwings that move through your yard while you are weeding your garden. Note: This formerly was referred to as "Casual Observation." Required Date/Effort fields: Date.

Area (P23) – Area Counts are made while thoroughly searching a given location or area. These types of counts are sometimes used by biologists when monitoring a specific site, however, they can be appropriate for casual birding if you are able to estimate the size (acres or hectares) of the area you searched. The key measure of effort is the size of your area. Secondary measures of effort are time (duration) and distance traveled. If you are unsure of the size of your search area, but have a reliable estimate of the distance you traveled, consider submitting your observations as Travel Counts. If you are unsure of the area you covered, but have a reliable estimate of distance, consider entering your observations as a Traveling Count. Examples of Area Counts include: actively searching a local park or woodlot for breeding birds or canoeing back and forth through a marsh to count wading birds. A birding trek around your neighborhood or privately owned property can be an Area Count if you are able to estimate the size of the area you searched. Required Date/Effort fields: Date, Start Time, Duration, and Area Covered.

Banding (P33) – Protocol for banding/ringing operations to report either captured birds or full surveys of a site that combine netted and observed birds. Answer "no" to "are you reporting all species" if you are only reporting netted birds; answer "yes" if you include netted and observed birds. Please read full protocol at this link: <https://support.ebird.org/en/support/solutions/articles/48000950859-guide-to-ebird-protocols#anchorBanding>.

eBird Pelagic Protocol (P60) – Specialized protocol for pelagic birding. Please visit this URL for the full protocol description:

<https://support.ebird.org/en/support/solutions/articles/48000950859-guide-to-ebird-protocols#anchorPelagic>.

Nocturnal Flight Call Count (P54) – Stationary Count protocol specifically designed to record nocturnally migrating birds. Note that while participants are asked to report all species, all counts will show "No" for the "All Species Reported" field. More specifics can be found here: <https://support.ebird.org/en/support/solutions/articles/48000950859-guide-to-ebird-protocols#anchorNFC>.

Oiled Birds (P52) – Traveling counts conducted to find and record oiled birds. Required Date/Effort fields: Date, Start Time, Duration, and Distance Covered.

Random (P48) – Observations made at a randomly selected location over period of at least five minutes. This protocol relates to how the location was selected. For other eBird protocols, the birder selects the location, but the eBird Random Count is different in that the birder randomly selects the location, thus eliminating the bias inherent when birders select areas that they deem to be 'good for birds'. To find a random location travel 3 or 5 miles from the last location you selected in any direction. Choose 3 or 5 miles depending on how much ground you intend to cover for the day, and try to avoid double-counting birds from a previous birding location (i.e., travel farther in open habitats than in forested ones). Stop at the first available, safe, location and conduct your count for at least five minutes, keeping track of duration and distance. Required Date/Effort fields: Date, Start Time, Duration, and Distance Covered. Distance can be zero (i.e., a 'Stationary Count').

TNC California Waterbird Count (P59) – Stationary Count explicitly used for The Nature Conservancy's waterbird surveys in California's Central Valley. Stationary Count of at least 5 min duration where all species are recorded and counted in an unlimited radius around the count location. Location selection is up to the observer, but see: http://www.conserveca.org/blog_multimedia/ca-sac-valley-birding-sites.pdf. for TNC regions of special focus. To add value to your data for this effort, please consider conducting another Stationary Count 1 mile from the current location in any safe cardinal direction. This "paired" count will help determine what birds are in the surrounding area, and help create a series of bird counts that are less location biased. If you do conduct a paired count, please put "Paired Count" in the checklist comments field during data entry. For more about TNC's BirdReturns project click: http://www.conserveca.org/blog_multimedia/precision-conservation.xml.

CWC Point Count (P46) – Caribbean Waterbird Census observations made from a specific location censusing a defined area. Recommended duration is 6, 9 or 12 minutes though longer durations (add increments of 3 minutes) may be necessary for certain counts. Note that this protocol is also used in Central America.

CWC Area Search (P47) – Caribbean Waterbird Census observations made while

traveling and censusing within a defined area. Examples include walking along existing boardwalk or shoreline and counting birds in the entire wetland. Recommended duration is 5-20 minutes though longer durations may be necessary for certain searches. Note that this protocol is also used in Central America.

CWC Traveling Count (P80) – Caribbean Waterbird Census observations made while traveling a specific distance. Observations made while censusing over a specified distance and duration. For routes that return along the same pathway, either submit a different checklist for the return trip or enter the one-way distance. Note that this protocol is also used in Central America.

Rusty Blackbird Spring Migration Blitz (P41) – Same as 'Traveling Count' above, but conducted by observers specifically searching for Rusty Blackbirds. Required Date/Effort fields: Date, Start Time, Duration, and Distance Covered.

California Brown Pelican Survey (P69) – To be used specifically for data entry for the California Brown Pelican Survey, a targeted biannual survey of Brown Pelicans on the Pacific Coast. Details about the survey methodology can be found here: <http://ca.audubon.org/brownpelicansurvey>.

PROALAS Point Count (2 Bands) (P73) – Stationary Count used for the Latin American Landbird Program (Programa de América Latina para Aves Silvestres: PROALAS). Stationary Count of at least 10 min duration where all species are recorded and counted both inside (< 30m) and outside (> 30m) of the radius around the count location. Location selection is up to the observer, or as specified by partner organizations. Required Date/Effort fields: Date, Start Time, and Duration.

PROALAS Mini-transect (P81) – Mini-transect counts for the Latin American Landbird Program (Programa de América Latina para Aves Silvestres: PROALAS). Mini-transects 100m long where birds are counted and registered both inside and outside of the 25m width limit at each side of the observer. Location selection is up to the observer, or as specified by partner organizations. Required Date/Effort fields: Date, Start Time, Distance, and Duration.

PROALAS Point Count (3 Bands) (P82) – Stationary Count used for the Latin American Landbird Program (Programa de América Latina para Aves Silvestres: PROALAS). Stationary Count of at least 10 min duration where all species are recorded and counted in three distance bands from the count location: <30m, 30m-100m, and outside 100m. Location selection is up to the observer, or as specified by partner organizations. Required Date/Effort fields: Date, Start Time, and Duration.

OBF (P83) – Specific protocol to gather site-specific, detailed observation data for Orange-breasted Falcon.

Audubon Coastal Bird Survey (P58) – Observations made as part of the official Audubon Coastal Bird Survey. See <http://www.audubon.org/content/audubon-coastal-bird-survey> for more information; protocol description is here https://nas-national-prod.s3.amazonaws.com/protocolacbs_updated_mda.pdf. Required Date/Effort fields: Date, Start Time, Duration, and Distance.

International Shorebird Survey (ISS) (P74) – This protocol is specifically to be used for the International Shorebird Survey, coordinated by Manomet (<https://www.manomet.org/>). If you want to learn how to become a part of the ISS, or more about the project, visit the ISS website: <https://www.manomet.org/project/international-shorebird-survey>. Date, Start Time, Duration, and Area (note: prior to November 2017, Distance was required, instead of Area).

Migratory Shorebird Protocol (P84) – This is the protocol used by the [Pacific Flyway Shorebird Survey](#) and the [Migratory Shorebird Project](#). In the most general sense it is an area search protocol of a specific unit, defined by a polygon. Read more about this protocol here: http://migratoryshorebirdproject.org/wp-content/uploads/2019/10/AreaSearchProtocol_Coast_2017.pdf. Required Date/Effort fields: Date, Start time, Duration. Wind, Precipitation, Surveyed area, Tidal stage, Habitat conditions, Dominant landcover, Party size.

Appendix 3. Additional Protocol Types and Definitions

The below protocols are utilized in special eBird portals or are protocols that are no longer used for active eBird data entry. These are relatively rare compared to the above protocols. Asterisked protocols are no longer available for new data entry, but may apply to some older data.

BirdLife Australia 20min-2ha survey (P70) – eBird Australia only. The 20min-2ha survey is BirdLife Australia's preferred method for general [Atlassing](#) and involves searching a two hectare area for 20 minutes. Ideally the area represents one habitat type only. The two hectare survey area could be any shape such as a rectangle of 100m x 200m, a circle with a radius of 80m, or a strip 400m long and 50 wide. If possible, count all individuals of all species heard or seen within the two hectare survey area including birds flying over the area, but not individuals heard or seen outside the survey area. If possible the survey site should be revisited regularly. See full description of protocol [here](#).

BirdLife Australia 5 km radius search (P72) – eBird Australia only. The 5km radius area search is similar to the 500m radius area search, but covers a larger area. The area searched should extend beyond 500m, but is within 5km from a central point. The survey area can be any shape and surveys can take from 20 minutes to many hours, as required. If possible, count all individuals of all species heard or seen within the survey area including birds flying over the area, but not individuals heard or seen outside the

survey area. See full description of protocol [here](#).

BirdLife Australia 500m radius search (P71) – eBird Australia only. The 500m radius search is designed to offer an observer more flexibility than the 2ha search. The survey area can be any shape and size within a 500m radius from a central point and surveys can take from a minimum of 20 minutes to many hours, as required. If possible, count all individuals of all species heard or seen within the survey area including birds flying over the area, but not individuals heard or seen outside the survey area. See full description of protocol [here](#).

Birds 'n' Bogs Survey (P66) – eBird Alaska only. Use this protocol to report Birds 'n' Bogs surveys between May 15 and June 1. Select your location from the Hot Spots list, and include behavior information when possible (Flyover, Singing Male, Courtship/Copulation, or Agitated Behavior). Enter any sightings of band combinations or geolocators in the 'species comments' section. For more information about the project, visit: <http://ak.audubon.org/birds-n-bogs-citizen-science-project>.

Breeding Bird Atlas (P65) – PortugalAves eBird only. Systematic 30 minutes counts in tetrads (2x2km sub-squares), distributed in a given 10x10km square, with recording of breeding code.

CAC--Common Bird Survey (P67) – PortugalAves eBird only. Survey at least 20 point counts of five minutes each, distributed in a given 10x10km square. The points should be located at least 1km distant from each other and represent the main habitats of the square. Each square must be visited twice per year. The first visit is to take place in April and the second in May (in the Azores, the season runs 15 days later), with a minimum of 30 days between them. Each visit to the total set of 20 points must be made within four hours of sunrise. The duration of each point count is 5 minutes. During these five minutes counts, record the total number of each species, detected by sight or by call, in each distance band to the observer (0-25m band and band > 25m).

Caribbean Martin Survey (P50) – eBird Caribbean only. Observations of Caribbean Martin at a roost site around sunset when the birds are flying into the roost or during the night when the birds are sleeping. Recommended dates: 15-18 September, duration 30-60+ minutes. Protocol and data spreadsheet are available [here](#).

Coastal Shorebird Survey (P49) – eBird Peru only. This protocol should be used only by those following the Peru Coastal Shorebird Survey Protocol. Depending on habitat type, this is a Traveling Count or Area Count. For species seen outside of the Area, please enter a separate checklist from this area.

Great Texas Birding Classic (P57) – Texas eBird only. Observations made as part of the Great Texas Birding Classic big day.

Greater Gulf Refuge Waterbird Count (P51) – Specialized protocol to monitor specific management areas in National Wildlife Refuges that have been managed to provide additional habitat for migratory species.

Heron Area Count* (P56) – Same as 'Area Count' above, but observers focused on counting herons. Required Date/Effort fields: Date, Start Time, Duration, and Area Covered. [note: this protocol is not longer active and no longer available for new submissions as of 2017]

Heron Stationary Count* (P55) – Same as 'Stationary Count' above, but observers focused on counting herons. Required Date/Effort fields: Date, Start Time, and Duration. [note: this protocol is not longer active and no longer available for new submissions as of 2017]

IBA Canada (protocol) (P61) – eBird Canada only. Observations made entirely within a single Canadian Important Bird Area (<http://www.ibacanada.org>). Here is a complete protocol description: http://www.ibacanada.org/documents/eBird_IBA_protocol.pdf.

LoonWatch (P39) – Vermont eBird only. Common Loon observations made for a specific lake area. Examples include a thorough survey of an entire lake or a portion of a lake during the breeding season.

My Yard Counts* (P35) – My Yard Counts was a project run by the Cornell Lab of Ornithology that gathered observation around residences in rural, suburban and urban settings. All observations were conducted for 20 minutes and included birds seen in an area of approximately 0.5 acres or less. The most significant difference from most eBird protocols is that the count is the maximum number of individuals seen *at any one time*. [note: this protocol is not longer active and no longer available for new submissions as of 2017. Formerly available for entry in My Yard eBird only.]

RAM--Iberian Seawatch Network (P68) – PortugalAves eBird only. Monthly seabird counts from coastal points over the first three hours of the day with no interruption. RAM points are visited on the first Saturday of each month. Seabird counts are performed from coastal points or capes over 3 hours, with no interruption (7:00 to 10:00 a.m. from May to September; 8:00 to 11:00 a.m. from October to April). A 20x60 telescope is fixed and pointed toward the sea, perpendicular to the coastline. A second observer uses binoculars to count birds that pass outside of the telescope field of view. Counts are divided in 5 minutes blocks, and start time for each block, seabird species, number and behavior code must be recorded. Other bird species should also be recorded, such as waders, ducks, and birds of prey. Other marine groups such as marine mammals, turtles, sunfish, sharks, tunas, can be recorded in the 'checklist comments'.

Standardized Yard Count* (P40) – The highest number of each species seen within a half acre around your residence during a 20 minute count, with the count repeated at the

same time and place on three consecutive days. [note: this protocol is not longer active and no longer available for new submissions as of 2017. Formerly available for entry in My Yard eBird only.]

Trail Tracker (P30) – eBird entries collected via the eBird Trail Tracker <http://trailtracker.org/>. At participating parks and refuges, Trail Tracker kiosks can be found at Visitors' Centers and other public spaces. Birders can enter in eBird via these kiosks, although they are not linked to personal accounts. Formerly referred to as "Kiosk" protocol.

Tricolored Blackbird Winter Survey (P75) – This Stationary Count protocol was used specifically for the Tricolored Blackbird Winter Survey, within the range of Tricolored Blackbird (primarily in California), and coordinated by Audubon California. This survey ran only in several years and is no longer active. Required Date/Effort fields: Date, Start Time, and Duration.

Traveling - Property Specific (P64) – Wisconsin Breeding Bird Atlas only. Observations made while birding over a specified distance (preferably <5 mi) and duration and according to WBBA II guidelines on locational precision (<http://wsobirds.org/images/atlas/Locationprecision.pdf>). Examples include walking around a state natural area, driving a refuge loop, and biking roads entirely through private lands. For routes that return along the same pathway, either submit a different checklist for the return trip or enter the one-way distance. Duration should cover the entire time spent birding, regardless of whether you needed to backtrack.

Waterbird Count* (P34) – Also known as the "RMBO Early Winter Waterbird Count" (RMBO = Rocky Mountain Bird Observatory). A focused survey of waterfowl on bodies of water in Colorado, with a particular focus on any waterbody where Barrow's Goldeneye was likely to occur. For more information see: <http://www.rmbo.org/v3/Portals/0/Documents/Science/2002/MCBfinalreport2002.pdf> [note: this protocol is not longer active and no longer available for new submissions as of 2017]

Yellow-billed Magpie Survey - General Observations* (P44) – Same as 'Incidental Observation' above, but observers were specifically searching for Yellow-billed Magpies. Required Date/Effort fields: Date. [note: this protocol is no longer active and no longer available for new submissions as of 2017]

Yellow-billed Magpie Survey - Traveling Count* (P45) – Same as 'Traveling Count' above, but conducted by observers specifically searching for Yellow-billed Magpies. Required Date/Effort fields: Date, Start Time, Duration, and Distance Covered. [note: this protocol is not longer active and no longer available for new submissions as of 2017]