**eBird Basic Dataset Metadata**

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.

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GLOBAL UNIQUE IDENTIFIER—A unique alphanumeric code assigned to each record that stays with it through database revisions, updates, and edits.

TAXONOMIC ORDER – The numeric value assigned to this taxon in the eBird/Clements taxonomy. Useful for ordering the file in the latest taxonomic order.

CATEGORY – The category assigned to this taxon in the eBird/Clements taxonomy. A full description of these categories is here: (http://help.ebird.org/customer/portal/articles/1006825).

COMMON NAME – The 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 in the eBird/Clements taxonomy.

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

OBSERVATION COUNT – The count of individuals made at the time of observation. If no count was made, an 'X' is used to indicate presence.

BREEDING BIRD ATLAS CODE – The highest level breeding information reported for the species on a given checklist. 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.

COUNTRY CODE – Abbreviation for country name. Follows ISO 3166-2.

STATE – The state/province where the observation was made. Follows ISO 3166-2.

STATE CODE – Abbreviation for state/province name. Follows ISO 3166-2.

COUNTY – The county where the observation was made. No international county standard is available, so the best available county layer is used.

COUNTY CODE – Alphanumeric code representing county name in this format (COUNTRY-STATE-COUNTY), e.g., US-AK-016.

IBA CODE—The alphanumeric code for an Important Bird Area. If an observation falls within an IBA, it is given this code. A list of codes and their corresponding site names is included in the metadata bundle.

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. More on BCRs here: http://www.nabci-us.org/bcrs.htm.

ATLAS BLOCK— Sampling units called blocks have been established for specific atlas projects run within eBird. Currently, blocks are limited to those used by the Wisconsin Breeding Bird Atlas (http://ebird.org/content/atlaswi/). Blocks are established using a grid system based on 7.5-minute topographic quadrangle maps (quads) prepared by the U.S. Geological Survey. Each quad has a unique identifier. For atlasing 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). For more information on the methods of the Wisconsin Breeding Bird Atlas see: http://wsobirds.org/images/atlas/WBBA_II_Handbook.pdf

LOCALITY – The reported location of the observation. Observers can give locations their own names, or choose from existing locations (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 – Data of the observation expressed year-month-day (YYYY-MM-DD).

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

OBSERVER ID – Unique number associated with each eBird observer.

FIRST NAME – Observer's first name.

LAST NAME – Observer's last name.

SAMPLING EVENT IDENTIFIER – The unique number associated with the sampling event (eBird checklist). A sampling event can contain one or many species, all of which will share this unique identifier.

PROTOCOL TYPE – The type of survey associated with this sampling event. The three main protocol types are: Traveling Count; Stationary Count; and Incidental Observation. For a complete list of protocol types 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 (e.g., eBird Chile or aVerAves) the data came through. This field is useful for determining how much data are being entered through various eBird regional portals.

DURATION MINUTES – The duration of the sampling event. Duration is expressed in minutes.

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

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

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

ALL SPECIES REPORTED – A critical field that separates eBird checklist data apart 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 us to understand more about

detection probabilities, and given a large enough sample serves as a surrogate for absence data. (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, it is given a GROUP ID number. Use this number to eliminate duplicate data when multiple observers are sharing data.

APPROVED – The status of the record based on the eBird data quality process. If "Approved", the record is deemed acceptable. If "Not Approved" the record has been deemed unacceptable by our review processes. The only current cases where "Not Approved" records are included in this dataset are as follows: Introduced/Exotic species; and unvetted data. In the case of Introduced/Exotic species the identification of the species is not usually in question, but many are set to "Not Approved" because their natural occurrence is questionable or not established. Nonetheless, researchers may choose to explore the expansion of introduced exotic species in the environment, so we provide the data here for that purpose. Unvetted data can be requested by checking the box 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, and the species, date, and count were within expected levels. "Reviewed" means that the record triggered a higher-level review process, and that it was vetted by one of our regional editors. (1 = yes; 0 = no).

REASON – The reason the record was "Not Accepted". In this dataset, it should always be "Species—Introduced/Exotic".

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.

**Sampling Event Data**

In some cases, scientists might be interested in looking at the sampling event data for a region. All sampling event data are bundled together under the prepackaged data options. These data are essentially a record of all the checklists submitted to eBird, but they include only the effort data, not the associated bird data. So this can be useful for determining things like "frequency of occurrence" in a region because one can find out when a species was detected, and when it was looked for but not detected.

**Appendix 1 – eBird Breeding Code Definitions**

NY Confirmed--Nest with Young -- Nest with young seen or heard.

NE Confirmed--Nest with Eggs -- Nest with eggs.

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

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

FY Confirmed--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).

CS Confirmed--Carrying Fecal Sac -- Adult carrying fecal sac.

CF Confirmed--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).

DD Confirmed--Distraction Display -- Distraction display, including feigning injury.

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

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

CN Confirmed/Probable--Carrying Nesting Material -- Adult carrying nesting material; nest site not seen.

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

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

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

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

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

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

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

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**

(Casual) Incidental Observation--Observations that involve no time 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. Required Date/Effort fields: Date.

Stationary Count--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.

Traveling Count--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.

(Exhaustive) Area Count--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 Protocol-- 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: http://help.ebird.org/customer/portal/articles/1385631.

GCBO Banding Protocol— A banding project conducted by Gulf Coast Bird Observatory at partner sites. The primary data collected included species, age and/or sex (when possible), and number of nets and net time. Protocol followed those outlined in Hussel and Ralph, 1998. For more information see:

http://www.gcbo.org/(S(ichs4evbnao02fj3vccsfq55))/default.aspx?MenuItemID=202&MenuGroup=Home&&AspxAutoDetectCookieSupport=1

PriMig Banding Protocol-- Observations of banded birds.

RMBO Early Winter Waterbird Count— 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

eBird My Yard Count—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*.

eBird Vermont – LoonWatch— 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 eBird – Standardized Yard Count – 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.

eBird—Rusty Blackbird Blitz – 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.

eBird California – YellowBilledMagpie General – Same as 'Incidental Observation' above, but observers were specifically searching for Yellow-billed Magpies. Required Date/Effort fields: Date.

eBird California – YellowBilledMagpie Traveling – 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.

eBird Caribbean - CWC Stationary Count – 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.

eBird Caribbean - CWC Area Search – 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.

eBird Random Location Count--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').

eBird Peru--Coastal Shorebird Survey – 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.

Caribbean Martin Survey – 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.

Audubon NWR Protocol – Specialized protocol to monitor specific management areas in National Wildlife Refuges that have been managed to provide additional habitat for migratory species.

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

eBird – Nocturnal Flight Call Count – Stationary Count protocol specifically designed to record nocturnally migrating birds. More specifics can be found here: (http://help.ebird.org/customer/portal/articles/1010492)

eBird—Heron Stationary Count—Same as 'Stationary Count' above, but observers focused on counting herons. Required Date/Effort fields: Date, Start Time, and Duration.

eBird—Heron Area Count—Same as 'Area Count' above, but observers focused on counting herons. Required Date/Effort fields: Date, Start Time, Duration, and Area Covered.

Great Texas Birding Classic—Observations made as part of the Great Texas Birding Classic big day.

Texas Shorebirds Survey—Observations made as part of the official Texas Shorebird Survey.

TNC California Waterbird Count—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.

eBird Pelagic Protocol—Specialized protocol for pelagic birding. Please visit this URL for the full protocol description: http://help.ebird.org/customer/portal/articles/1375503.

IBA Canada Protocol—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.

Historical—Birding was the primary purpose, but start time, duration, and distance could not be estimated.

Nocturnal Birding—This protocol is for nighttime surveys of nocturnal species, such as owls, nightjars, rails and other species that may be more easily detected at night. If you made a specific effort to find birds by imitating calls or playing recordings, please use the checklist comments to list the species that you attempted to attract, in the order you attempted to attract them. Please read full protocol: http://help.ebird.org/customer/portal/articles/1740199.

Wisconsin Breeding Bird Atlas Traveling - Property Specific—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.

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

Birds 'n' Bogs Survey—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.

CAC--Common Bird Survey—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).

RAM--Iberian Seawatch Network—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 behaviour 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'.

California Brown Pelican Survey—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.

BirdLife Australia 20min-2ha survey—The 20min-2ha survey is BirdLife Australia's preferred method for general Atlassing (link the word atlassing to this URL:http://birdlife.org.au/projects/atlas-and-birdata) 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 (Link = http://birdlife.org.au/documents/ATL-Starter-Kit-2012.pdf).

BirdLife Australia 500m radius search—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 (link = http://birdlife.org.au/documents/ATL-Starter-Kit-2012.pdf).

BirdLife Australia 5 km radius search—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 (Link = http://birdlife.org.au/documents/ATL-Starter-Kit-2012.pdf).