

Christmas Bird Count (CBC) Raw Data README File

Important Data Usage Considerations

1. **Data Validation:** Note that it is impossible to validate each of the thousands of records submitted to the CBC annually. This problem is shared by all largescale community science/participatory science programs. Although we attempt to minimize errors, a small percentage of CBC reports may be incorrect and analysts must be aware that misidentifications, data entry errors, and other sources of error can evade our data review process. All data pass through a review process that involves geographically specific experts. When these reviewers flag concerns, compilers are able to check and correct entries. Editorial flags (in document below) used by regional reviewers are retained in the data set and should be consulted to determine if records should be included in a specific analysis.
2. **Historical Species Names:** The species names in this database follow the American Ornithological Union (AOU) nomenclature as it existed in the early 2010s. The species list in this database has not been updated to reflect any name changes or lumping and splitting of species that have taken place since that time and does not reflect current taxonomic classifications. Users should be aware of this when working with CBC count data.
3. **Variable Effort Reporting:** As with any monitoring data, a recorded observation is a function of both the biological event (number of species actually present) and the observation process (probability that an individual bird, when present, will be observed, which is factor of the number of observers and/or the amount of time spent observing). We strongly suggest that analysts minimally include predictors of the observation process, namely, the effort expended by participants, as predictors in their statistical models, in order to describe increasing probabilities of observing birds with increasing time spent in making observations. For example, a commonly used effort method for standardizing counts is the party hour. Party hours are the number of hours that all parties spent in the field from dawn to dusk, not including nocturnal hours or feeder watching hours. Other metrics to consider are party size and distance covered by a variety of modalities. When analyzing CBC data, please carefully consider which effort measurements are most appropriate for your specific research questions and target species. Please note the field dictionary below to determine which applies to the report you obtain and be aware of items that we do not recommend you use.
4. **Weather Data Limitations:** Weather data included in this dataset is a composite estimate for the full circle on count day, which may not match weather conditions at specific locations throughout the circle. As such, these estimates may differ from measurements from official weather stations. Data users should decide which data is best for the purpose of the analysis.

Data Fields Dictionary

Depending on the process you use to download CBC raw data, your report may include the following fields. Please note that some fields are only available in certain reports. Literature that cites CBC raw data should use one of the citation formats included in our [Terms of Use for Christmas Bird Count® Data Assets, including Data & Derived Products](#).

Audubon CBC Online Self-Service Portal Species Report

Field Name	Description
NAME	Common AOU species name as of early 2010s.
CODE	Common AOU species name abbreviation as of early 2010s.
YEAR	Official CBC count number; count numbers start at 1 in the 1900-1901 count season. Note that, due to a technology limitation, data from 2015 and beyond is not available for in species reports. If you would like this data, please submit a data request .
NUMBER	Number of individuals of the species that were seen for each count year listed within the selected country/region. This includes field, feeder watch, and nocturnal observations. A zero in this field indicates this species was seen “count week” but not on the observation date. “Count week” is defined as from 3 days before to 3 days after the observation date. If no number is present, the species was not present during count week or count day.
NUM/PARTY HRS	This field is calculated from an outdated formula in the existing web application. We do not recommend using this variable. There is not currently an effort metric available via the self-service species report. If you would like effort data, please submit a data request .
NUMBER OF COUNTS REPORTING SPECIES	Number of count circles reporting species within the defined country/region for each count year listed.
NUMBER OF OBSERVERS ON REPORTING COUNTS	Sum total of participants reported from all count circles reporting species within the defined country/region for each count year listed.

Audubon CBC Online Self-Service Portal Count Report

Field Name	Description
COUNT NAME	Descriptive name of the circle.
COUNT CODE	A four-digit unique circle code. The first two digits indicate the state, province or subnational area of the circle.
LATITUDE	Decimal latitude of the centroid of the location. Many entries are only defined to the minute if they were defined in the database prior to 2003.
LONGITUDE	Decimal longitude of the centroid of the location. Many entries are only defined to the minute if they were defined in the database prior to 2003.
WEATHER	Composite weather conditions reported for any given count year (see all fields below) for the circle.
LOW TEMP.	Low temp of the count day to the nearest degree, in degrees F for the circle.
HIGH TEMP.	High temp of the count day to nearest degree in degrees F for the circle.
AM CLOUDS	Morning cloud cover on count day: clear, partly clear, partly cloudy, cloudy, foggy, local fog, unknown.
PM CLOUDS	Afternoon cloud cover on count day: clear, partly clear, partly cloudy, cloudy, foggy, local fog, unknown.
AM RAIN	Composite code of up to three digits representing all rain conditions encountered during the morning of count day: 1 heavy, 2 light, 3 none, 4 unknown.
PM RAIN	Composite code of up to three digits representing all rain conditions encountered during the afternoon of count day: 1 heavy, 2 light, 3 none, 4 unknown.
AM SNOW	Composite code of up to three digits representing all snow conditions encountered during the morning of count day: 1 heavy, 2 light, 3 none, 4 unknown.
PM SNOW	Composite code of up to three digits representing all snow conditions

	encountered during the afternoon of count day 1 heavy, 2 light, 3 none, 4 unknown.
EFFORT	Effort data reported for any given count year (see all fields below) for the circle.
COUNT DATE	Date of count when observations were recorded for any given count year for the circle.
NUM. PARTICIPANTS	Total number of field observers participating in the count for any given count year for the circle. This does not include feeder watch and nocturnal observers.
NUM. HOURS	Total number of field hours circle participants reported observing birds for any given count year within the circle area. This does not include feeder watching or nocturnal birding hours. This is the same as party hours.
NUM. SPECIES REPORTED	Total number of species reported for any given count year for the circle. In the context of the CBC only, this is equal to the number of AOU-listed ('real') species observed on count day plus any generic or sp. forms not represented within the list. This does not include hybrids. For example, loon sp. counts in the total only if no other loons were identified to the species on count day.
SPONSORING ORGANIZATION	Name of organization that supports and/or helps coordinate the count circle for any given year.
YEAR	Count year and CBC number (e.g. 2023 [124]). Also includes effort data (see fields above).
SPECIES	Common AOU species name and scientific name (e.g. American Coot [<i>Fulica americana</i>]) as of early 2010s.
NUMBER	Total number of individuals of the species seen. A zero in this field indicates this species was seen "count week" but not on the observation date. "Count week" is defined as from 3 days before to 3 days after the observation date.
NUM/PARTY HRS	The average number of individuals of a species reported per party hour completed for any given year for the circle. We do not recommend using this variable. Effort

	correction of CBC data is discussed in Soykan et al. (2016) .
FLAGS	CBC Regional Editor flags. Please see codes below.
COMPILER(S)	Name and email for the circle compiler that leads the count for any given year. Primary compiler is noted.
PARTICIPANT(S)	First and last name for each volunteer who participated in the count for that circle for any given year (reported by compiler). Personally identifiable information (PII) may not be used for any purpose.

Audubon Raw Data Request Report

<i>Field Name</i>	<i>Description</i>
ABBREV	A four-digit unique circle code. The first two digits indicate the state, province or subnational area of the circle.
NAME	Descriptive name of the circle.
LATITUDE	Decimal latitude of the centroid of the location. Many entries are only defined to the minute if they were defined in the database prior to 2003.
LONGITUDE	Decimal longitude of the centroid of the location. Many entries are only defined to the minute if they were defined in the database prior to 2003.
SPECIES REPORT	
SUBNATIONAL1 CODE	Specific subnational region where the circle location primarily is (cc is a 2-letter country code, sss is the country-specific subnational code).
COUNTRY	Two-letter ISO 3166-1 country code.
COUNT_YR	Official CBC count number; count numbers start at 1 in the 1900-1901 count season.
CNT_DT	Date and beginning time of the observations.
COM_NAME	Common AOU species name as of early 2010s.
HOW_MANY	Total number of individuals of the species seen. A zero in this field indicates this species was seen “count week” but not on the observation date. “Count week” is

	defined as from 3 days before to 3 days after the observation date.
ADULTS	Count of adult eagles seen. Used for specific project. We do not recommend using this field because it is not comprehensive or actively maintained.
IMMATURES	Count of immature eagles seen. Used for specific project. We do not recommend using this field.
UNKNOWNNS	Count of unknown age eagles seen. Used for specific project. We do not recommend using this field.
TOTAL SPECIES	Total number of species seen for the count. In the context of the CBC only, this is equal to the number of AOU-listed ('real') species observed on count day plus any generic or sp. forms not represented within the list. This does not include hybrids. For example, loon sp. counts in the total only if no other loons were identified to the species on count day.
EDITOR_COMMENT	CBC Regional Editor comments and flags about the species. Please see codes below.
SORT_CBC	Sort feature that will result in AOU species name sort. Keep in mind AOU lists have not been updated since the early 2010s.
EFFORT REPORT	
FIELD_COUNTERS	Total number of field observers (diurnal and nocturnal) participating in the count. This excludes feederwatching observers.
FEEDER_COUNTERS	Total number of feederwatching observers participating in the count.
FEEDER_HRS	Total hours spent observing by feederwatchers.
MIN_PARTIES	Minimum number of count parties in the field on the count day (excludes feederwatchers and nocturnal parties).
MAX_PARTIES	Maximum number of count parties in the field on the count day (excludes feederwatchers and nocturnal parties).
NOCTURNAL_HRS	Total hours spent observing during the nocturnal period (non-daylight hours rounded to the nearest quarter hour).

NOCTURNAL DISTANCE	Total miles traveled by nocturnal observation parties.
EFFORT TYPE DESCRIPTION	Description of type of transportation used by diurnal field count parties (e.g. foot, car, boat, skis). Transportation is not provided for feederwatching or nocturnal effort.
DISTANCE	Sum of all miles/kilometers traveled by parties using the transportation method described in EFFORT TYPE DESCRIPTION.
EFFORT UNIT DESCRIPTION	Unit of measurement for effort DISTANCE (e.g. miles or kilometers).
HOURS	Sum of all hours parties spent observing during the diurnal period using the transportation method described in EFFORT TYPE DESCRIPTION. Nocturnal and feederwatching hours are not included and are reported separately.
WEATHER REPORT	
MIN_TEMP	Low temp of the count day for the count circle to the nearest degree, in degrees F.
MAX_TEMP	High temp of the count day for the count circle to nearest degree in degrees F.
MIN_WIND	Representative lower range of wind speed on count day; this is not the minimum wind speed observed on the count day; stored in MPH.
MAX_WIND	Representative upper range of wind speed on count day; this is not the max wind speed observed on the count day; stored in MPH.
WIND DIRECTION	Predominant direction of wind on count day: north, northeast, east, southeast, south, southwest, northwest, variable, calm, unknown.
MIN_SNOW	Representative lower range for snow depth, reported to the nearest 0.25 inches; reported as 0 if there was no snow; stored in inches.
MAX_SNOW	Representative upper range for snow depth, reported to the nearest 0.25 inches; reported as 0 if there was no snow; stored in inches.
STILL WATER CONDITIOIN	Ice cover over still water: open, partly open,

	partly frozen, frozen, unknown.
MOVING WATER CONDITION	Ice cover over moving water: open, partly open, partly frozen, frozen, unknown.
AM CLOUDS	Morning cloud cover on count day: clear, partly clear, partly cloudy, cloudy, foggy, local fog, unknown.
PM CLOUDS	Afternoon cloud cover on count day: clear, partly clear, partly cloudy, cloudy, foggy, local fog, unknown.
AM RAIN	Composite code of up to three digits representing all rain conditions encountered during the morning of count day: 1 heavy, 2 light, 3 none, 4 unknown.
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CBC Reviewer Editorial Codes

As noted, annual count data goes through a comprehensive review process with regional experts. These reviewers use a set of editorial codes to flag certain entries. These codes may be included in the raw data you receive.

Code	Comment	Code	Comment
AB	albino	NC	new to count
AD	adult	ND	no details
AF	at feeder	NF	not Forster's
AM	adult male	NH	call not heard
AP	alternate plumage	NU	not unusual?
AQ	adequate details	OU	origin unknown
BD	banded	PD	poor details
BP	basic plumage	PH	photo
DD	details desired	PS	present for some

			time
DM	dark morph	QN	questionable number
DW	dark winged	QR	questionable
ED	excellent details	QU	?
EO	experienced observer	RA	radio collared
ES	estimated number	RC	record count
EX	exotic	RE	Refuge estimate
FC	first CBC record	RI	recent introduction
FE	feral	RL	recently released
FP	female-plumaged	RN	remarkable number
FS	first state record	RP	re-introduced population
FW	first winter	RR	remarkable record
GD	good details	RT	responded to tape
HE	high elevation	RW	regular in winter
HH	hand held	SK	sketch
HO	heard only	SP	specimen
HY	hypothetical	SW	second winter
IJ	injured	UD	unconvincing details
IM	immature	UE	un-countable exotic
IV	ID by voice	UR	under review
LO	low	VP	viable population?
MD	marginal details	VT	videotaped
ML	migrant lingering	WM	white morph
MO	many observers	WR	winter state record
YM	immature male		