

Abstract

Created in 2009, the SanBIOS database serves as a single repository of species observations collected by various departments within the County of San Diego's Land Use and Environment Group. Coordination of biological species tracking between departments ensures a complete dataset, meeting a specific data standard, and will provide the best available information to environmental scientists, advocacy groups, all County departments, and various agencies.

Purpose

This catalog of species observations have been recorded by professional biologists from the County of San Diego as well as from various other agencies and private firms. These data serve many functions: they serve as a baseline catalog of species records in the adopted South County MSCP and the draft North and East County preserve systems (including invasive species) in the incorporated and unincorporated areas of San Diego County, they are used to direct the location of future permanent plot surveys and for uses in various monitoring projects, they are used in the testing and validation of predictive species niche models and to comply with CEQA regulations, and they are used to identify and monitor invasive species. It is important to note these observations are an indication of confirmed species presence at the time of the survey but offer no indication of species absence. The types of surveys performed to collect these data were variable, ranging from highly organized and standardized surveys to random observations based on chance. SanBIOS was constructed to be interchangeable with the State of California's Biological Information and Observation System (BIOS) database (<http://bios.dfg.ca.gov/>).

The following departments contribute species observation information to SanBIOS:

- Ag. Weights and Measures
- Environmental Health
- Parks and Recreation
- Public Works, Environmental Services
- Planning and Land Use

By adhering to common standards, organizations are more able to share data and determine the value of a dataset. In accordance with County of San Diego's GIS Policy #4, all species observations are to be collected using the SanBIOS standards and template.

SanBIOS Data Standard and Template Metadata

The SanBIOS database template contains a geodatabase consisting of two empty feature classes (one for point locations and one for polygon features) and associated look up tables to ensure data consistency. In the instance where a geodatabase cannot be utilized, shapefiles are provided and accepted as a substitute. The attributes featured in this dataset meet the basic requirements of each department, although more information may be collected and tracked outside of this database. The following information must be recorded for each observation:

SpID: This is a numeric field. The SpID, or the species code, can be found in the associated "Species" table. The table lists the species code as well as the latin and common names. The final SanBIOS dataset will include the latin and common names for querying purposes so it is critical to record the correct species code. For any species observed that is not included in the species table, a SpID of -99 should

be assigned, with the latin name of the species provided in the “Notes” field for County staff to update the final species table.

Observer: This is a text field. The observer field lists the individual name, the department name or the company name associated with the person recording the species observation. It is important to know who to contact if there is a question regarding an observation. Considering this, the name of a department, an agency or consulting firm is the most important, as people and roles change with time. If there is no information to be recorded, or if the value is unknown, a value of “No Data” is required to be entered.

SourceID: This is a numeric field. The SourceID, or the source code, can be found in the associated “Source” table. It refers to the source of the observation, such as a historical document or a field observation. If there is no information to be recorded, or if the value is unknown, a value of “-99” is required to be entered.

VoucherID: This is a numeric field. The VoucherID, or voucher identification number, is the voucher number assigned by an institution confirming the identification of an individual specimen. If there is no information to be recorded, or if the value is unknown, a value of “-99” is required to be entered.

SiteName: This is a text field. This field is used to indicate the name of an area where the survey is conducted. This can include park names, preserve names, or a name of a general area. Due to the nature of this field, variations of a single name can often be found. For example, “Palomar Mountain”, “Palomar Mtn”, and “Mt Palomar” can all be listed to represent the same area. Acronyms and abbreviations are discouraged in order to provide useful information. If there is no information to be recorded, a value of “No Data” is required to be entered.

SiteNotes: This is a text field. While site names are recorded, sometimes there are more detailed site descriptions that may need to be recorded. A measured distance, an address, or a more specific description of where within the site the species occurred are all good examples of information collected in this field. If there is no information to be recorded, a value of “No Data” is required to be entered.

LifeID: This is a numeric field. The LifeID, or life form code, differentiates the observations into plant or animal categories. The codes can be found in the associated “LifeForm” table. If there is no information to be recorded, or if the value is unknown, a value of “-99” is required to be entered.

DeptID: This is a numeric field. The DeptID, or department code, lists the departments that are responsible for surveys or observations, or who is contracting a survey. If there is no information to be recorded, a value of “-99” is required to be entered.

ObsDate: This is a date field. In this field, the date of the observation is recorded. Due to seasonal variation in species occurrence and range, as well as the importance (in animal species) of discerning breeding individuals from non-breeding, it is important to have a precise understanding when an observation was made. The date must be expressed as a two digit month, day, and four digit year. Example: mm/dd/yyyy. If the specific day of the month is missing or not recorded, the month

and year will suffice but records with anything less than a month and year will be excluded from the database.

CountofID: This is a numeric field. The CountofID, or count of individuals, indicates the number of individuals present or occurring at the time of the observation. For example, while observing *Bufo californicus*, a CountofID of 2 would indicate that two species were observed in one location. Some observations have a large quantity of individuals or an extent and should be captured as a polygon instead of a point location. In cases where the number is known as a range, the minimum number of individuals will be used to populate the field. This field requires a value of 1 or greater.

OriginID: This is a numeric field. The OriginID, or the origin code, can be found in the associated "Origin" table. It refers to the origin of the spatial data, such as a GPS unit or digitized points from a field map. If there is no information to be recorded, or if the value is unknown, a value of "-99" is required to be entered.

PCode: This is a numeric field. The PCode, or precision code, can be found in the associated "Precision" table. The value can represent either an accuracy associated with an individual point location, the extent of specific polygons representing an individual's range or habitat, or the extent of groups of individuals or trapping grids. If there is no information to be recorded, or if the value is unknown, a value of "-99" is required to be entered.

ProtocolNa: This is a text field. Values consist of names referring to specific protocols followed during a survey. For more information, see the CDFG website http://www.dfg.ca.gov/wildlife/species/survey_monitor.html. If there is no information to be recorded, or if the value is unknown, a value of "No Data" is required to be entered.

ProtocolDe: This is a text field. Values consist of brief descriptions of protocol followed or titles of published references for the specific protocol named. If there is no information to be recorded, or if the value is unknown, a value of "No Data" is required to be entered.

DBEditDate: This is a date field. This is the recorded date when the spatial data is created or modified.

SiteQualID: This is a numeric field. The SiteQualID, or site quality code can be found in the associated "Quality" table. Descriptions in this table provide the observer with a subjective ranking of population viability at the observation site and specific to the species observed. The ranking levels are based on the health and viability (size and demographics) of the population, condition and quality of the general habitat that supports the species, past and existing disturbance, and the potential for possible threats. If there is no information to be recorded, or if the value is unknown, a value of "99" is required to be entered.

SrcDocName: This is a text field. If an observation is linked to a report, or comes from a historic document, the title or reference is documented here. If there is no information to be recorded, a value of "No Data" is required to be entered.

DBSteward: This is a text field. The database steward is the name of the individual who is assembling and editing the spatial data.

Point_X and **Point_Y:** These are numeric fields. Due to the nature of place names, and the fact they vary, the only way to truly name an observation's location is to record the X,Y location of the feature. This does not have to be recorded in the field, however. It can simply be added by running "Add X,Y Coordinates" tool in ArcGIS. If this is not an available option, the field can be left empty and will be populated before being entered into the final SanBIOS database by the department steward. For the polygon feature class, the coordinate of the polygon centroid is preferred. The coordinate system for the geodatabase and all datasets is State Plane California Zone 6, Nad83.

Notes: This is a text field. This field contains any ancillary information not captured in any other field that is pertinent to the observation. If there is no information to be recorded, or if the value is unknown, a value of "No Data" is required to be entered.

Contact Information

As this dataset is available to the public, it is expected that inconsistencies or errors in the data will be found. Questions or concerns regarding the SanBIOS dataset or the County's standard and templates, as well as information regarding specific errors in the database can be directed to one of the following:

Emily Kochert, GIS Analyst
County of San Diego, Dept of Parks and Recreation
Emily.Kochert@sdcounty.ca.gov

Jason Batchelor, GIS Coordinator
County of San Diego, Dept of Planning and Land Use
Jason.Batchelor@sdcounty.ca.gov

Ross Martin, GIS Manager
County of San Diego, Land Use and Environment Group
Ross.Martin@sdcounty.ca.gov