

Wildlife Health Database (WHe-DB)

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Presentation

Welcome to the **Wildlife Health Database (WHe-DB)** documentation. Here, you will find comprehensive information about the database's data structure (data model), how to use the web-based graphical user interface as user and administrator, and the data dictionary. This documentation aims to provide a clear understanding of the database's organization, how to use the database, and the meaning of its data.

WHe-DB is a versatile database designed to manage wildlife health data collected from various surveillance efforts. These efforts encompass a wide range of activities, including citizen observations of dead, injured, or sick animals, specific research studies, national or local wildlife health surveillance initiatives, outbreak investigations, and global wildlife health surveillance projects involving multiple countries, hazards, and host species.

The data model of the database has been developed by the **Wildlife Health Intelligence Network - Data Task Force**, integrated by members of the Wildlife Conservation Society, the World Organisation of Animal Health, the United Nations Food and Agriculture Administration, the World Health Organisation, the University of Calgary, the Davis Arbovirus Research and Training (University of California - Davis), the Canadian Wildlife Health Cooperative, and the Global Biodiversity Information Facility. This collective experience includes wildlife health surveillance activities conducted in numerous countries with several public and private partners; both cross-sectional and longitudinal studies; the establishment of wildlife health surveillance networks; investigation of diverse biological, chemical, and physical hazards; research on dangerous zoonotic pathogens like Ebola virus disease and SARS-CoV-2; engagement of rangers in protected areas and nearby communities as key contributors to health surveillance; expertise in wildlife pathology; the use and development of various types of diagnostic tests; and prior experience in managing wildlife health data using different information management systems.

The current documentation is divided in the following sections:

The **Data Model** section provides a detailed explanation of the data structure used in the WildHealthDB database. By understanding the structure, users can efficiently enter, navigate, and manipulate the data stored within.

The **Database Manual** section explains how to use the graphical user interface of the WildHealthDB to read, write, and delete data, and how to use the database if you are an administrator.

The **Data Dictionary** is the last section of this documentation. The data dictionary serves as a valuable resource for users, as it provides a complete list and description of all the data elements present in the database. Each data element is defined, including its name, type, and any applicable constraints.

We hope this documentation proves to be a valuable resource, enabling you to effectively utilize the WildHealthDB database. Should you have any further questions or require additional assistance, please don't hesitate to reach out the support team.

Wildlife Health Data Model

The Wildlife Health Data Model (WHe-DM) is a data model that aims to accommodate wildlife health data coming from different sources, including local to national wildlife health surveillance systems (surveillance of diseases, pathogens, and toxins), research initiatives, or citizen-science based projects, among others.

Wildlife health surveillance systems can include a wide range of methods and targets. The plethora of surveillance types (general surveillance, targeted surveillance, participatory surveillance, sentinel surveillance, early warning surveillance, syndromic surveillance, etc) reflects the potential variability of the strategies, methodologies, and objectives associated with health assessment in wildlife. The strategies can include information from open sources, community members, and ranger patrols. Active capture of animals or the testing of specimen from wild animals in markets and collection of specimens of different types could be part of the strategies as well. The methodologies can focus in pure observations of herds and animals, hosts or vectors, the collection of carcasses to conduct necropsies, multiple diagnostic tests, among others. The objectives can range from early detection of pathogens, measure of disease levels and their impacts, prove absence of disease, evaluate disease control methods, etc. Furthermore, the variability with respect to the potential targeted populations and hazards (biological, chemical, physical, or physiological) support the creation of “infinite” types of data.

On the other hand, harmonization of data and systems to effectively track, store, retrieve and disseminate information are foundational pillars of wildlife health surveillance systems. However, both pillars have been absent historically and globally. The challenge is evident. Promote best data practices when data are multiple and variable. The Wildlife Health Intelligence Network has developed a data model designed to respond to this challenge.

Introduction

The WHe-DM contains units that are hierarchical organized, starting from the highest level of “**Projects**”, followed by “**Surveillance Activities**”, “**Field Visits**”, “**Locations**”, “**Events**”, “**Collections**”, “**Sources**”, “**Source Records**”, “**Specimens**”, and “**Diagnostics**”. Briefly,

Projects are a set of **Surveillance Activities** with a common leader and organizer (e.g., a national wildlife health surveillance system). **Surveillance Activity** is a surveillance task that have a specific methodology and objectives. **Field Visit** represents a period of time when activities are conducted in the field. The **Location** is a specific area where surveillance activities are conducted. An **Event** is a site where wildlife health surveillance data is collected from. An **Event** can contain different **Collections** that represent different methods and efforts to obtain **Source Records from Sources**. **Sources** are the units that can provide **Specimens** for hazard detection or whose health is assessed by an agent at time t . There are four Source types in the data model: group of animals, individual animals, sites to collect environmental tissue, and sites to collect arthropods. **Specimens** are tissue taken from the **Sources** at time t (**Source Records**). **Diagnostics** are the tests conducted in lived animals (“Animal Source”), **Carcasses**, or **Specimens** collected to assess hazards.

Out of this hierarchy is the component **Diagnosis**, which is the final status assigned to a Diagnostic, a Specimen, or a Source at time t with respect to the hazards surveyed, based on well-documented case definitions. **The basic relationships among the basic units of the data model** are shown in Figure 1 below.

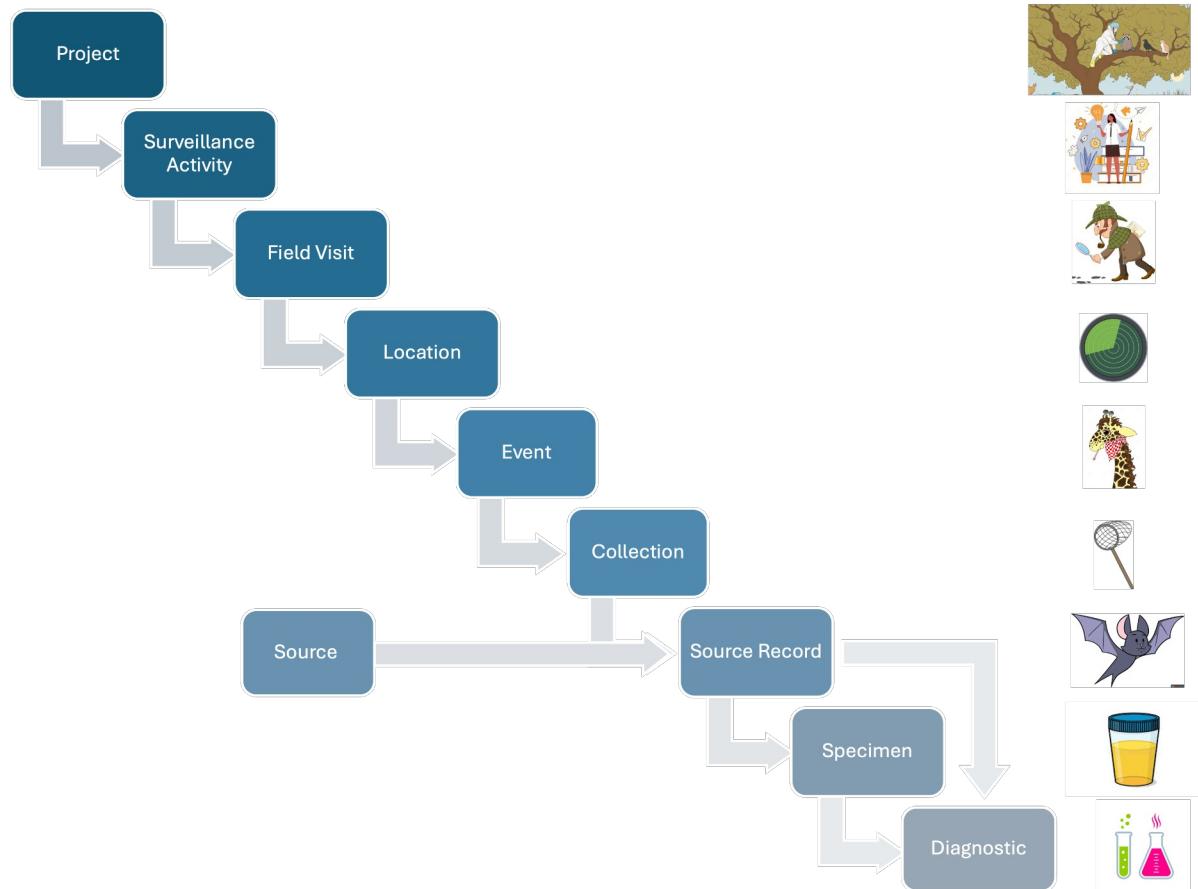


Figure 1: Basic relationships among the basic units of the data model.

The data model remains simple when the wildlife health data is simple, and it gets more complicated as the data structure and variability increases. For this reason, many

components of the data model are conditional, meaning that they are needed depending on the structure of the data. Let's start with example 1: wildlife mortality reported by a community member through an application. The methodology must be explained in the Surveillance Activity metadata. The Field Visit could be one per year to categorize the reports per year. The Location can be defined by the position sent by the mobile device when each dead animal is recorded. In this case, it could be a county or a zip code. In the example, an Event has Source Records corresponding to dead animals. No Specimen, Diagnostic, or Laboratory data is generated. No Collection effort is associated with the Events, and the animals are not clustered beyond the Field Visit, the Location, and the Events.

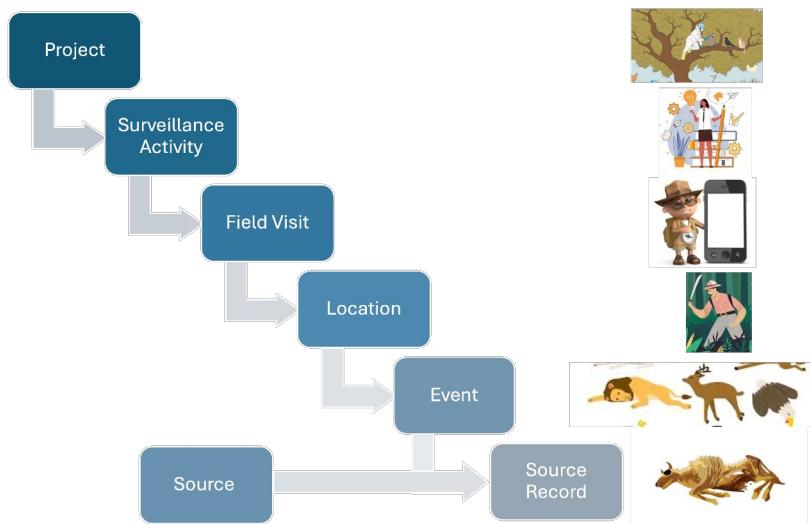


Figure 2: Components of the data model to contain data from example 1.

The data model is **not designed for wildlife population monitoring**. However, the data model includes key identifiers so wildlife health and population data can be integrated seamlessly.

More complex relationships among the basic units in the data model, as well as other extra information in the data model are explained in the section “Complexities”. It is recommended first to learn more about the basic units from Project up to Diagnosis by continuing reading this documentation and checking the menu on the top right corner of this website and click on the corresponding unit ->.

Main Units of the Data Model

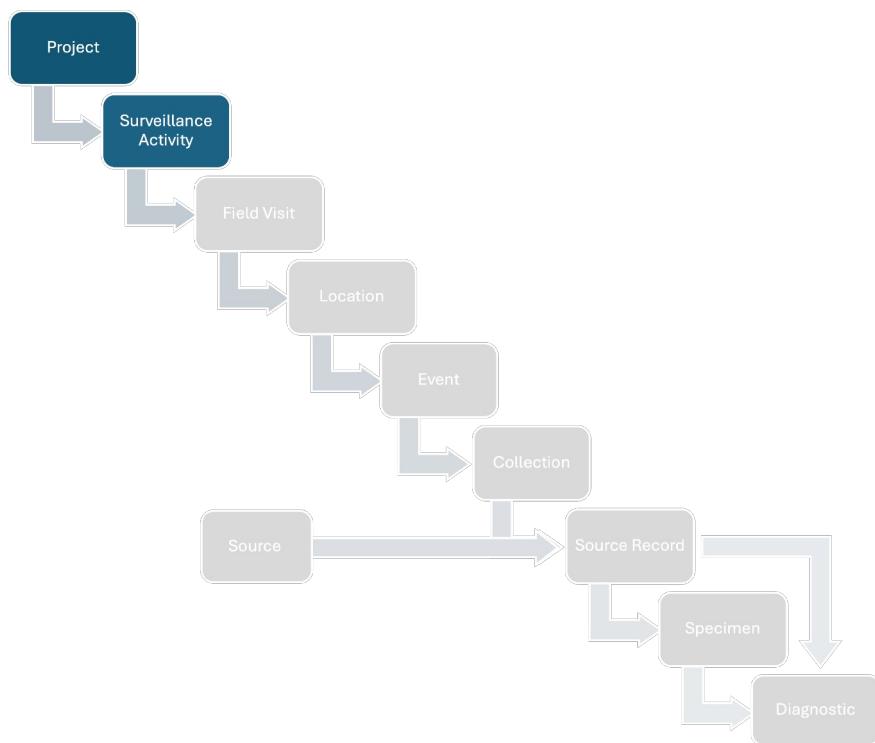
Project

A Project in the data model is a surveillance initiative supported by specific entities. For example, the PREDICT Project funded by USAID, an isolated cross-sectional study with a single field visit to a single location (sample collection in a market), or a national or local wildlife health surveillance network led by a government agency. Projects are the highest

hierarchical unit in the database and they contain at least one Surveillance Activity. Projects can involve a single date or they can extend for as long as needed.

Properties of a Project include the Project ID, Project Code, Project Cross Reference ID, Project Cross Reference Origin, Project Leader, Project Funding Source, among others (see Data Dictionary).

Surveillance Activity



A Surveillance Activity in the data model refers to a set of activities to collect data with the aim of detecting, proving freedom of disease, measure incidence or prevalence, or assessing trends of specific health hazards within specific populations, using a common methodology. For example, the [longitudinal assessment of coronavirus shedding in two *Eidolon helvum* bat roosts in Africa](#) collected a fix number of feces from two bat roosts of the same species on a monthly basis for 12 months and tested the feces for coronaviridae sp.

Surveillance Activities can encompass targeted surveillance, scanning surveillance, citizen science monitoring, ranger patrols, and others. **Surveillance Activities include detailed metadata that describe their objectives and methods, including information on the targeted species, populations, hazards, samples, collection methods, diagnostics, and case definitions, among others.** A Surveillance Activity can include multiple Field Visits and Locations and Source types (groups, individual animals, environmental sources, or arthropod collections).

It is recommended that the definition of Event, what an Event represents, is unique for the Surveillance Activity and also to keep a minimum number of hazards targeted under the

same Surveillance Activity. In general, a specific set of methods, strategies, and objectives should equal a specific Surveillance Activity.

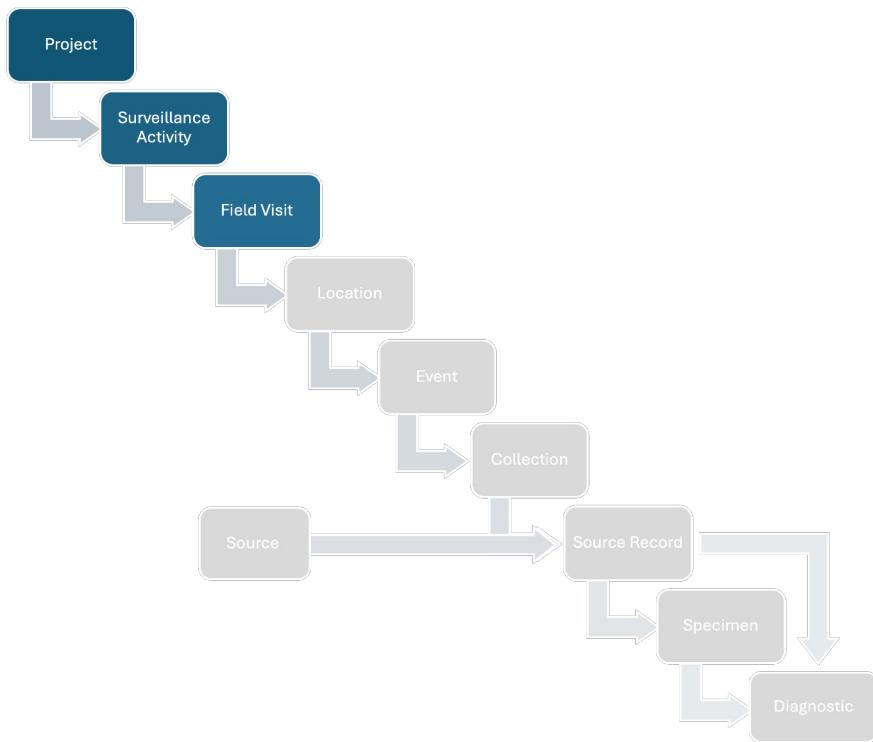
Field Visits, Locations, Events, Sources, Source Records, and Diagnostics usually belong to a single Surveillance Activity. This is the Surveillance Activity that lead to the Field Visits at different Locations to document Events, collect Sources and Specimens, perform Diagnostics for a specific hazard, and provide Diagnosis for Diagnostics, Specimens, and Sources. However, there are exceptions to this rule (See the “Complexities” section below). Furthermore, **a Surveillance Activity usually includes Field Visits, Locations, Events, Sources, Source Records, and Diagnostics, but this is not always the case** (See the “Complexities” section below).

Most of the properties of a Surveillance Activity are associated with the standard documentation of the methods use to conduct the corresponding surveillance initiative. These properties include, Start Date, End Date, Hazards and Taxa targeted, Organizations involved, the definition of Location, the definition of Event, the type of Sources included, the methods to find or establish Sources, Specimens collected and method of collection, the diagnostics used, case definitions for the diagnostic tests, the Specimens, and the Sources at time t , among others.

Outbreak Investigation

Each outbreak investigation is considered a Surveillance Activity. Outbreak Surveillance Activities can encompass the Field Visit that lead to the Outbreak detection and the following Field Visits associated with Outbreak investigation and control. The detection could have been made during a Field Activity conducted by rangers during their patrols. This initial Field Visit and its components should be assigned to a the ranger patrol Surveillance Activity and to the Outbreak Surveillance Activity. The following Field Activities that could be completed by veterinarians or public health officers conducting the official outbreak investigation receive the outbreak Surveillance Activity only (See Complexities below).

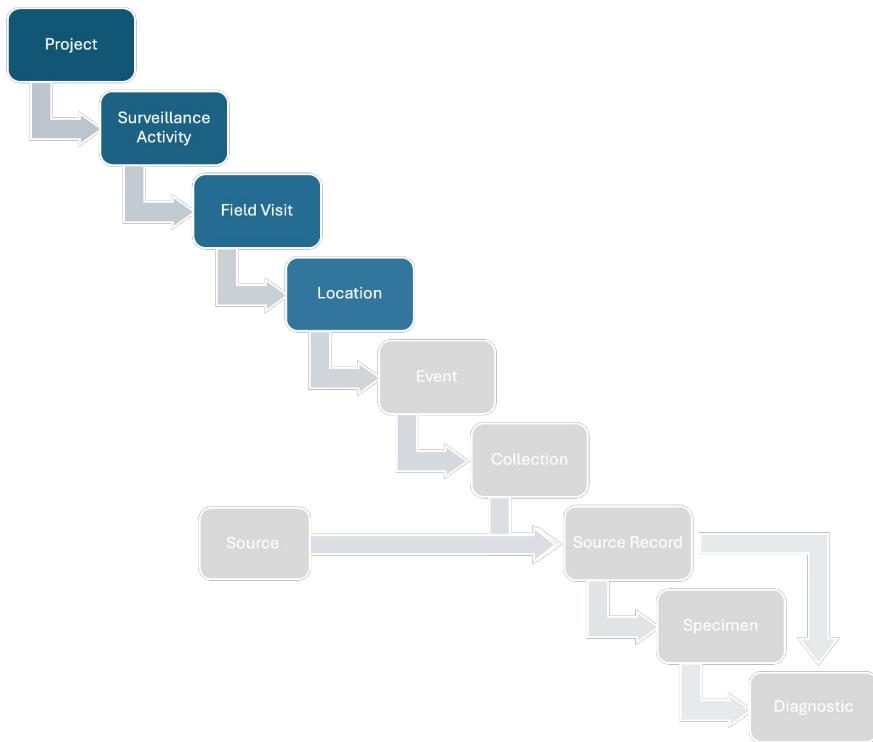
Field Visit



A Field Visit in the data model represents a time period, including a start and end date, to visit Locations, identify Events and Sources, collect Specimens (see below) and document data from them. A Field Visit can include various types of Locations (see below), such as markets, natural areas, rehabilitation centers, caves, etc. that are visited within the same trip and common start and end date. A Field Visit should include at least one Location up to an indefinite number of Locations (areas).

Properties of a Field Visit include the Start and End Date, Field Visit ID, Field Visit Code, Field Visit Cross Reference ID, Field Visit Cross Reference Origin, Leader of the Visit, among others (see Data Dictionary). If the data of interest per Field Activity includes attributes that are not part of the data model, it has to be reported as part of the Surveillance Activity metadata and it is recommended to keep track of these attributes in a different source (another database, an excel sheet, etc.). Common extra Attributes can be added to the data model in the future. Missing Options for single- and multi-selection attributes of Field Visits can be added as long as they promote a controlled vocabulary.

Location

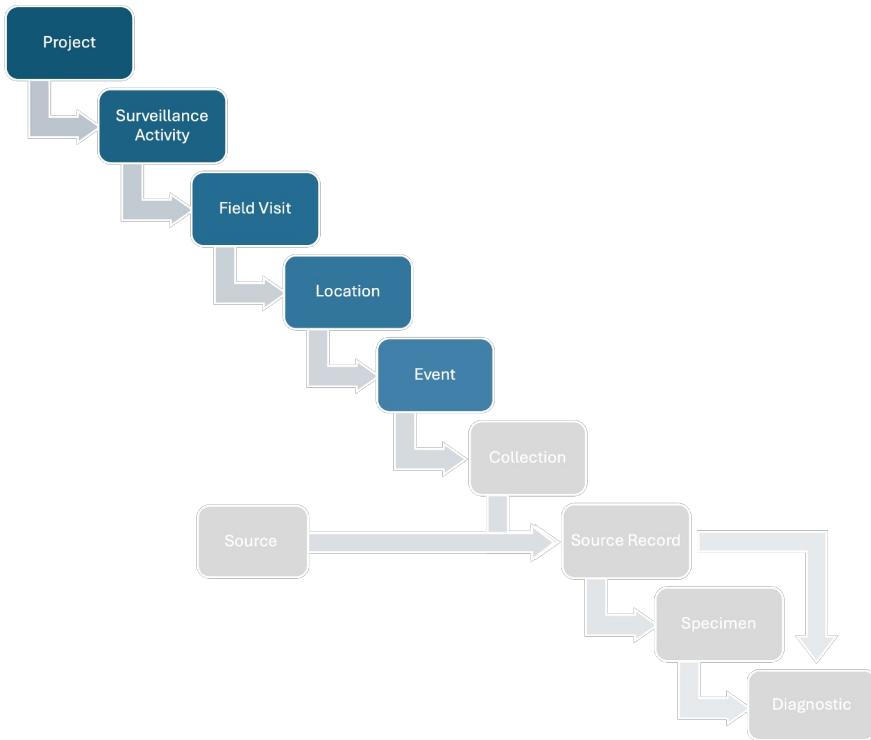


A Location in the data model refers to a general area (polygon) where Events can be identified, and Source Records, Carcasses, and Specimens can be collected from. A Location serves as a way to group data in areas compared to the Events that group data under a exact latitude and longitude ('Event'; see below). A single Location (area) can include between zero Events (e.g., a Location is explored but no Event is found) up to a indefinite number of Events (points).

What a 'Location' represents will inevitably vary depending on the Surveillance Activity methodology. For example, for the collection of arthropods, a Location can represent a parcel where traps are set. In a structured/hierarchical/clustered/nested research, the Location could represent a grid cell. In ranger patrols, the Location can correspond to either the full protected area, or a specific zone within the protected area. **It is up to the user to define what unit the Location area represents and report it in the Surveillance Activity metadata.**

Properties of Location include Location ID, Location Code, Location Cross Reference ID, Location Cross Reference Origin, Location Type, Environmental Characteristics, among others (see Data Dictionary). If the data of interest per Location includes attributes that are not part of the data model, it has to be reported as part of the Surveillance Activity metadata and it is recommended to keep track of these attributes in a different source (another database, an excel sheet, etc.). Common extra Attributes can be added to the data model in the future. Missing Options for single- and multi-selection attributes of Locations can be added as long as they promote a controlled vocabulary.

Event



An Event in the data model refers to a distinct wildlife health event that occurs at a specific longitude and latitude on a particular date (time stamp). A single Event (point) can include between zero Collections (e.g., opportunistic detection of Sources) up to a indefinite number of Collections.

The definition of a wildlife health event, and thus what an ‘Event’ represents, will inevitably vary depending on the Surveillance Activity. For example, in active surveillance efforts, an Event can refer to the site where animals are captured, starting at time t , to obtain Specimens, the site and time where a dead animal is found during a ranger patrol, the site and time where water is collected from a pond. In the case of surveillance for vector-borne diseases, an Event can represent a site where one or several traps for vectors are deployed at time X . In the case of beached fish, an Event can represent the position and time of recording of each individual dead fish in one extreme, or the total count of dead fish across the beach reported as a single point in the other extreme. In the context of a wet market, the definition of Event can be applied to the market, to vendors, to the stalls of vendors, or to the cages in the stalls at time t . For study A the Event could be the grid cell where traps are deployed, whilst for study B it could each trap within a grid cell.

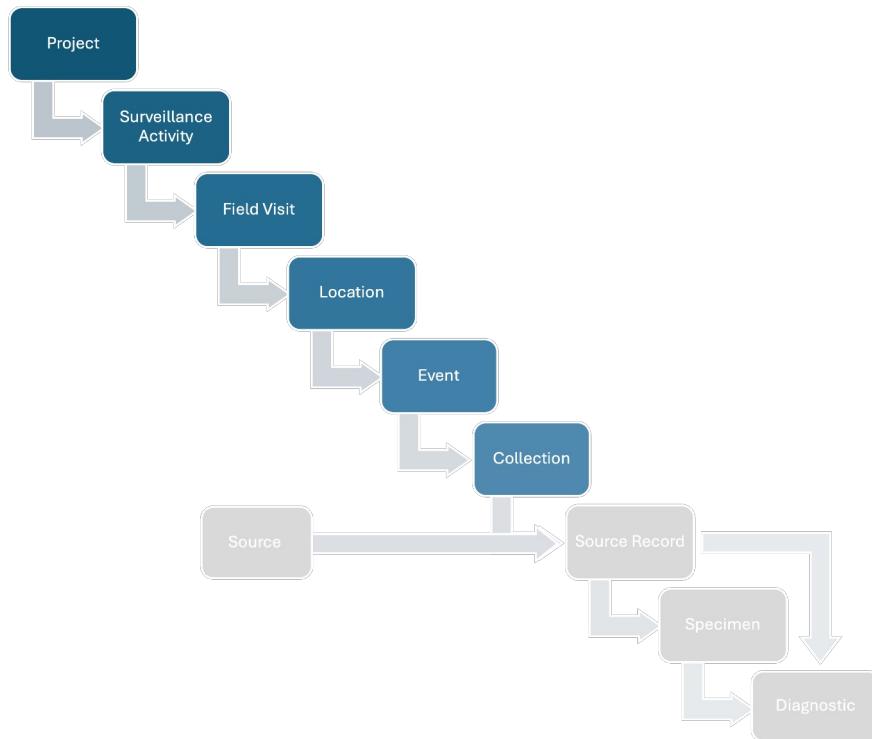
Moreover, the presence of at least one Source could be needed to establish an Event. For example, a dead animal found during a ranger patrol at time t leads to an Event. In Active Surveillance, an **Event might not have any Source, for example, a capturing effort starting at time t that ends with no animals captured**. Additionally, the definition of an Event can include or not healthy animals. In the example of the dead animal found by the

ranger at time t , it could be possible that the Event definition includes the documentation of healthy animals or not.

Consequently, an Event in wildlife health surveillance can represent different entities depending on the objectives and the methodology used to collect wildlife health data. **It is up to the user to define what unit the Event represents and report it in the Surveillance Activity metadata. It is recommended that each Surveillance Activity has a single definition of what an Event represents.**

Properties of Event include the Start Date, Event ID, Event Code, Event Cross Reference ID, Event Cross Reference Origin, Longitude, Latitude, the Coordinate Reference System used, among others (see Data Dictionary). If the data of interest per Event includes attributes that are not part of the data model, it has to be reported as part of the Surveillance Activity metadata and it is recommended to keep track of these attributes in a different source (another database, an excel sheet, etc.). Common extra Attributes can be added to the data model in future versions. Missing Options for single- and multi-selection attributes of Events can be added as long as they promote a controlled vocabulary.

Collection



A **Collection** in the data model represents the effort associated with the observation, finding, capturing, etc. of Sources at the longitude and latitude of an Event that starts at the Event time stamp. For example, the number of hours an observer spent in a post to identify dead birds in a wetland and the tools used to find it (e.g., telescope, binoculars); the number of camera traps in a specific latitude and longitude to photograph a sick animal and the hours they were deployed; the distance and time traveled by a ranger to find a dead

animal; the type of trap, bait, time period, and set of equivalent traps to collect mosquitoes at a specific site.

A Collection can contain between zero Source Records (e.g., a capturing effort but no animal is captured) up to a indefinite number of Source Records. If Sources are found opportunistically, then no Collection is involved (e.g., articles from news articles where the coordinates of the site and the date reported determine the Event and the animals involved are the Source Records).

A Collection usually contains a specific type of Source Record (either Group Source Record, Animal Source Record, Environmental Source Record, and Invertebrate Source Records). This is because observation, capturing, or other efforts are usually targeting groups of animals, or individual animals, or environmental tissue, or arthropods. On the other hand, because multiple Collections, targeting any of these objectives, can be part the same Event (e.g., traps to collect mosquitoes and also use a device to filter and collect air at the same site), then an Event can contain Source Records of multiple types.

Collections are defined by the type of spatial and temporal units to complete it, the number of those units, and the position of those number of units with respect to the spatio-temporal coordinates of the Event. A spatial unit can be mist nets deployed, CO₂ traps deployed, camera traps deployed, kilometers walked, square kilometers scanned, etc. A temporal unit can be hours walking, days searched, minutes observed, etc. Then, each Collection has a number of the assigned unit (e.g., “6” for number and “kilometers walking” for unit). Finally, the position with respect to the Event spatio-temporal coordinates can be “at the Event”, “around the Event”, “from the beginning of the Event”, “up to the Event”, etc.

For example, a Collection of an Event constituted by an individual at a post in a wetland that spent 6 hours to scan for dead birds using binoculars has as spatial Attributes: “1”, “observer binocular” “at the Event”; and temporal Attributes: “6”, “hours”, “at the Event”.

Another example is a ranger walking for 10 kilometers since the beginning of the patrol to find a dead animal. The spatial Attributes are: “10”, “kilometers walked”, “to the Event”; and temporal Attributes are not relevant (or the time walking to get to the Event could be reported as well). Similar approach can be used to record animals found during an outbreak investigation. A final example is two CO₂ traps and a BG trap to collect mosquitoes deployed for a night. In this case, there are two Collections as **a set of equivalent efforts constitute a single Collection per Event**. The spatial Attributes of the CO₂ traps are: “2”, “CO₂ traps”, “at the Event”; and temporal Attributes are: “1”, “night”, “at the Event”. The spatial Attributes of the BG trap are: “1”, “BG trap”, “at the Event”; and temporal Attributes are: “1”, “night”, “at the Event”. To document the three traps separately, three Events with a single trap each must be created.

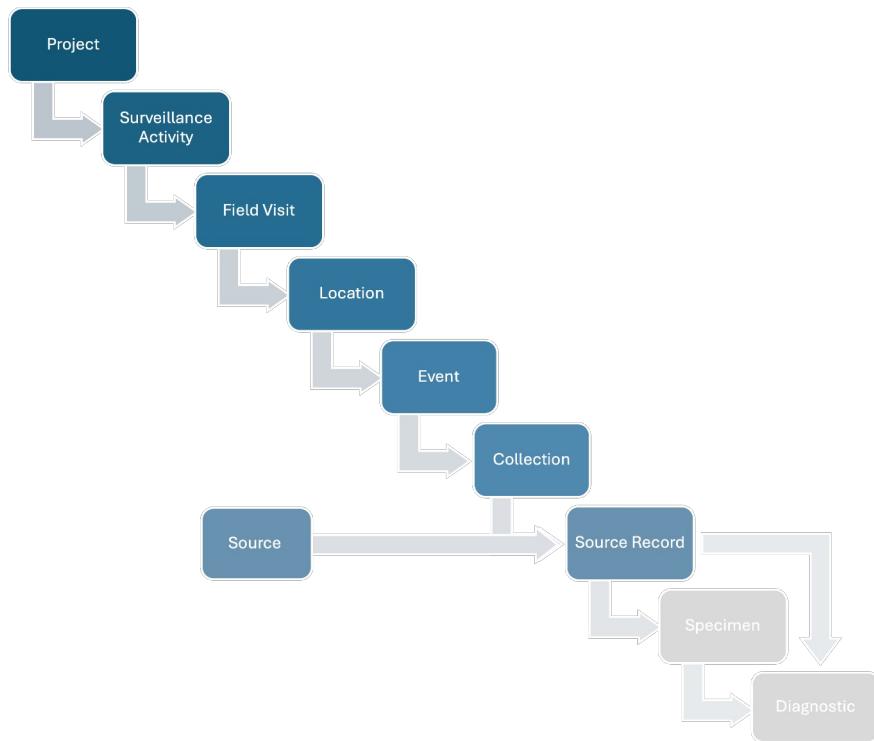
It is not accepted to provide the spatial relationship with the Event as “meters after the Event” or the time relationship with the Event as “hours before the Event”.

Collections also allow to characterize problems during the search for Sources, such as camera traps running out of battery or stolen, torn mist nets, etc.

When Source Records are obtained without a **Collection** (e.g., animals sampled in a market, citizen science reports of dead animals) the property “Unit” is “none”, the “number of units” is NA, and the positioning with respect to the Event is NA.

Further properties of Collection include the Collection ID, Collection Code, Collection Cross Reference ID, Collection Cross Reference Origin, Problems, among others (see Data Dictionary). If the data of interest per Collection includes attributes that are not part of the data model, it has to be reported as part of the Surveillance Activity metadata and it is recommended to keep track of these attributes in a different source (another database, an excel sheet, etc.). Common extra Attributes can be added to the data model in future versions. Missing Options for single- and multi-selection attributes of Collection can be added as long as they promote a controlled vocabulary.

Source and Source Records



Generalities

A Source in the data model is a unit that can be observed and provide Specimens, including carcasses, organic tissue, abiotic tissue, or arthropods. Sources can provide between zero (no sampling) up to indefinite number of Specimens (tissue to conduct diagnostic tests). The data model manages four types of Sources: i) a co-specific group of animals (Group Source), ii) individual animals (Animal Source), iii) sites that can provide abiotic tissue of interest (e.g., sediment, soil, water, air) or biotic material of animal origin whose individual or group animal of origin is unknown (Environmental Source, e.g., feces found in the field), and iv) sites where active or passive collection arthropods at any life stage is completed (Arthropod Source). A Group Source could correspond to a specific bat roost of species X

sourcing guano, an Animal Source could be a collared animal, an Environmental Source could be a pond where water is collected from, and an Arthropod Source could be a site where mosquito larvae are collected from. Sources contain time-independent data only, such as the species of an animal in the case of a Group Source or an Animal Source (more below).

All Sources can potentially be identified and followed over time if needed.

Environmental and Arthropod Sources are associated with a specific site making it easy to track them over time; however, **Animal Sources and Group Sources might not be individually identified preventing following them over time in new Collections or an opportunistic finding.**

A Source observed, collected, or captured at time t can be linked to Events through a Collection (see previous section) via a Source Record (the Source at time t). These Source Records contain time-dependent data only, such as health status at time t (Group and Animal Sources). **Sources individually identified can be followed longitudinally and have multiple Source Records that link them to multiple Events over time of the same or different Surveillance Activity.** For example, a bat (Source) caught in a mist net (Collection) set up at a roost (Event), identified individually, and recaptured in a following Event. This bat is linked to the capture Event and the recapture Event through a single Source Record for each Event.

Sources that are not identified will be linked as a Source Record to the Event where they were observed or captured only. For example, a bat (Source) that is captured (Collection) and sampled during an Event but not marked or a dead animal not identified found by a ranger during a patrol. The bat and the animal found are linked only to the Event they were capture and observed, respectively.

Source Records found opportunistically can be linked to an Event in the absence of a Collection. For example, a dead animal (Source Record) reported by a citizen who found it in a beach (Event).

Group Source

A Group Source is a unit of co-specific individuals (animals of the same species) associated to a herd, an area, a site, a farm, a cage, a stall, an enclosure, or other that makes the individuals part a single epidemiological unit. Group Sources can be observed, captured, and provide Specimens at time t as a collective. Data of a Group Source include the Species, the Group Source ID, the Group Source Cross Reference ID, among others (see Data Dictionary).

The purpose of Group Source is to record individuals at the species level instead of individual by individual. This can occur when herds are the unit of interest, when protected area rangers find animals of the same species in a health event, or to document animals in a unit such as a cage, stall, or vendor of a market. For example, animals of two species in a single cage, not tracked individually, represent two Group Sources (one Group Source by species).

Group Source Record

A Group Source Record consists of a count of the animals in the Group Source at time t , stratified by sex, age, and health status (e.g., healthy, injured, sick, or dead). Other properties of the Group Source Record are Observed Anomalies, Potential Causes of Disease or Death if they apply at time t , among others (see Data Dictionary). Properties of a Group Source Record are documented at the group level, therefore, multiple options can be reported. For example, a Group Source with three dead animals can receive several potential causes of death. **It is not possible to know the distribution of the potential causes of death and other properties across individuals of a Group Source Record,** but only that they were present in at least one individual.

Group Source Records can include a mix of dead, diseased, poisoned, infected, injured, and healthy individuals of the same species or just one of them if all the animals of the species are dead. A Group Source Record of only healthy animals can also be part of a Health Event depending on the definition of Event.

Group Source Records can have a single individual. For example, rangers patrolling a protected area might find a dead animal of species X and two dead animals of species Y at the same site (Event) and rangers record their animal data as Group Sources. If this is the case, the single animal of species X belong to a Group Source Record and the two animals of species Y correspond to another Source Group Record. Moreover, if only a single animal of a known herd is observed at time t , then that individual is the representation of the herd for the Source Group Record.

An Event can have more than one Group Source Record of the same species. For example, animals of the same species in two cages held by a vendor in market where the vendor is considered an Event. Then the animals per cage could be a unit, and therefore, two Group Source Records of the same species under the same vendor (same Event).

An Group Source can be used directly for a Diagnostic (e.g., assessment of the body condition of a specific herd). The data model can accommodate Diagnostics applied to a group itself rather than a Specimen taken from that Group Source. **Specimens (see below) from Group Sources can be stored, exported, and they can be used for Diagnostics** (see below). However, **the data model does not accept Group Sources Carcasses to be exported or stored as a set of Carcasses because their collection and manipulation implies an opportunity to collect data at the individual level (Animal Source). Similar criteria applies with Necropsies and the Specimens collected from these Carcasses. In this case, the animals of the Group Source whose Carcasses are taken or used for field Necropsy can and MUST be converted to Animals Sources. These Animal Sources are identified as ex-members of a Group Source and their Carcasses, Necropsies, and Specimens are tight to the individual animal (more details in the Complexities section below).

Group Sources cannot be taken from the field. If dead animals from a Group Source are taken from the field, each one of them must be documented as an Animal Source coming from the corresponding Group Source whose Carcass is collected (See ‘Animal Source’ and ‘Carcass’ below). **Live animals of Group Sources cannot be taken ex-situ.**

An animal of species X documented as part of a Group Source Record must not be included as an Animal Source Record and vice-versa. If an Event contains a Group Source Record of species X and an Animal Source Record of species X, then the total number of animals of species X at the Event is the sum of the number of animals of species X in the Group Source Record and the single individual of species X recorded as an Animal Source Record. An example is a herd of cows illegally raised in a protected area whose health is assessed at time t . The herd of this example contains 20 cows. Two of them are sampled and the rest are part of a single unit. In this case, the sampled cows can be added as two Animal Source Records (one per sampled cow) and the remaining 18 animals can be added as a single Group Source Record that distributes the animals per sex, age, and health status. The total number of cows are the individuals in the Group Source Record (18) and the two cows recorded as Animal Records. The “herd” identity of the 20 cows can be kept using a cluster (see “Complexities”). If the Group Source Record contains the original 20 cows and also two Animal Source Records, then the total number of cows will be 22.

[Animal Source](#)

An Animal Source represents an individual animal whose specific individual-level data is of interest. Animal Sources can be observed, captured, tested, and provide Specimens at time t , including the full carcass to have a Necropsy completed. Animal Source data includes the Species, the Animal Source ID, the Cross Reference ID, the Sex, among others (see Data Dictionary). Past marking codes (if any have been used) are considered immutable and entered as data of the Animal Source.

An example of Animal Sources are animals of the same or different species caged in a live market. If the data of the animals is to be collected at the individual-level, then each individual in the cage represents an Animal Group Source.

[Animal Source Record](#)

An Animal Source Record consists of an Animal Source at time t . Properties of an Animal Source Record are its Age, Health Status, Observed Anomalies, and Potential Cause of Disease or Death if they apply at time t , among others (see Data Dictionary). The current marking code of an individual animal at time t is considered mutable and a property of the corresponding Animal Source Record. Properties of an Animal Source Record can receive single or multiple choices. For example, the observed health status is only one (live healthy, live sick) but an Animal Source Record can receive several observed anomalies if they observed in the same individual at time t (wounded, hair loss, diarrhea, etc. See Data Dictionary).

An Animal Source can be either dead, diseased, poisoned, infected, injured, or healthy at time t . **An Animal Source Record with an observed health status “live healthy” can be part of an Event depending on the Event definition** (e.g., a healthy animal of species X next to dead animals of species X, Y, and Z; or healthy animals captured for Specimen collection).

An Animal Source Record can be used directly for a Diagnostic (e.g., X-rays in a live animal at time t). The data model can accommodate Diagnostics applied to the individual itself rather than a Specimen taken from that Animal Source.

Live Animal Source cannot be taken ex-situ. Only Carcasses of Animal Source can be taken out of the field and stored in a facility.

An animal of species X documented as part of a Group Source Record cannot be included as an Animal Source Record and vice versa. If an Event contains a Group Source Record of species X and an Animal Source Record of species X, then the total number of animals of species X at the Event is the sum of the number of animals of species X in the Group Source Record and the single individual of species X recorded as an Animal Source Record. An example is a herd of cows illegally raised in a protected area whose health is assessed at time t . The herd of this example contains 20 cows. Two of them are sampled and the rest are part of a single unit. In this case, the sampled cows can be added as two Animal Source Records (one per sampled cow) and the remaining 18 animals can be added as a single Group Source Record that distributes the animals per sex, age, and health status. The total number of cows are the individuals in the Group Source Record (18) and the two cows recorded as Animal Records. The “herd” identity of the 20 cows can be kept using a cluster (see “Complexities”). If the Group Source Record contains the original 20 cows and also two Animal Source Records, then the total number of cows will be 22.

[Vaccination](#)

The data model allows the inclusion of vaccinations completed in an Animal Source by the time it was captured or immobilized at time t . It is possible to include as many vaccination records as needed to an Animal Source Record. Thus, the vaccination data accumulates for the corresponding Animal Source.

[Carcass](#)

The carcass of a dead Animal Source can provide Specimens. A Carcass entered to the database comes from a specific Animal Source and they are collected at a single specific time t . Therefore, each Carcass is associated with one and only one Animal Source Record (when the Carcass was collected). Properties of a Carcass include its Decomposition Condition, Storage During Transport, Owner, Availability, among others. Moreover, Carcasses are stored and changes in the storage or movement of the Carcass from one storage facility to another can be multiple over time. Similarly, Carcasses can be exported multiple times. Changes in storage associated with an exportation must occur after the exportation is completed and the Carcass can be stored in the destination facility.

A Carcass does not provide Specimens directly but through the dead Animal Source Record. The Specimens can be identified as Carcass sourced.

A Carcass is not used directly for a Diagnostic but through the dead Animal Source Record (e.g., X-rays in a dead animal). The diagnostic information is part of the set of Diagnostics conducted in the corresponding Animal Source.

[Necropsy](#)

A Necropsy is associated with a specific Animal Source Carcass. **The earliest date a Necropsy can occur is when the dead animal was found and a Field Necropsy was conducted (no Carcass collection) or after the Carcass was collected.**

Necropsy data includes the a Necropsy Identifier, the Necropy Cross Reference Identifier, the Date of the Necropsy, findings per system, among others (see Data Dictionary).

Necropsies can be primary or secondary. A primary necropsy usually starts with an intact carcass (not previously used in a necropsy). A secondary necropsy is usually conducted by a veterinarian pathologist using pictures of the primary necropsy or using a carcass already necropsied.

A Necropsy does not provide Specimens directly but through the Animal Source Record.

[Environmental Source](#)

An Environmental Source is a unit in space where Specimens that cannot be associated with a Group Source, an Animal Source, or Arthropod Source can be collected from (e.g., the site where feces of unknown source are found). Properties of an Environmental Source include the Environmental Source ID, the Cross Reference ID, among others (see Data Dictionary).

[Environmental Source Record](#)

An Environmental Source Record is the biotic or abiotic tissue from the Environmental Source at time t recovered using a common Collection. For example, the water collected from a pond (Event) at site X (Environmental Source) using a device (Collection) to obtain water at time t (Environmental Source Record). Properties of an Environmental Source Record include Record Number, Type of Tissue, the Quantity, and the Quantity Unit (see Data Dictionary).

A key difference between the Environmental Source and the Group and Animal Sources is that an Event can contain multiple Records of a single Environmental Source (many Collections from the same Environmental Source at time t). Instead, an Event can contain a single Record of many Group and Animal Sources (in one or many Collections). An Event can only contain a single Environmental Source, but many Records can be retrieved (one per collection). On the opposite, many bats can be captured in a mist net (many Sources), but they can only provide one Record per Event (see figure at the end of this section).

Another key difference is that “species” for Group and Animal Sources is a property of the Source, whilst for Environmental Sources is a property of the Record. For example, it could be possible to identify the species that dropped feces found in the field as “mammal”. If this is the case, then the Species property can be completed with this level of taxonomy.

If there is a failed Collection of tissue at time t from the Environmental Source) then it is the Collection that exists without the Environmental Source Record. But an Environmental Source Record cannot be empty.

[Arthropod Source](#)

An Arthropod Source is a unit in space where arthropods can be taken from (e.g., a household in the forest where traps can be set). Properties of an Arthropod Source include the Source ID, the Cross Reference ID, the Cross Reference ID Origin, among others (see Data Dictionary).

If the interest of the Surveillance Activity is at the arthropod individual level (e.g., butterflies with problems in their wings or with parasites), then the user should consider these arthropods as Animal Sources. Arthropods from Animals Sources (attached ticks, lice, fleas, mites) are Specimens (see next section) from an Animal Source and not Arthropod Sources.

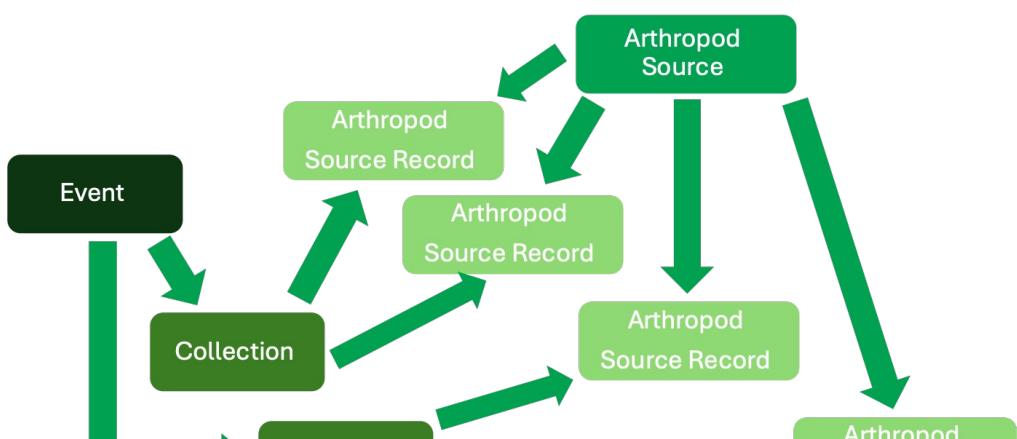
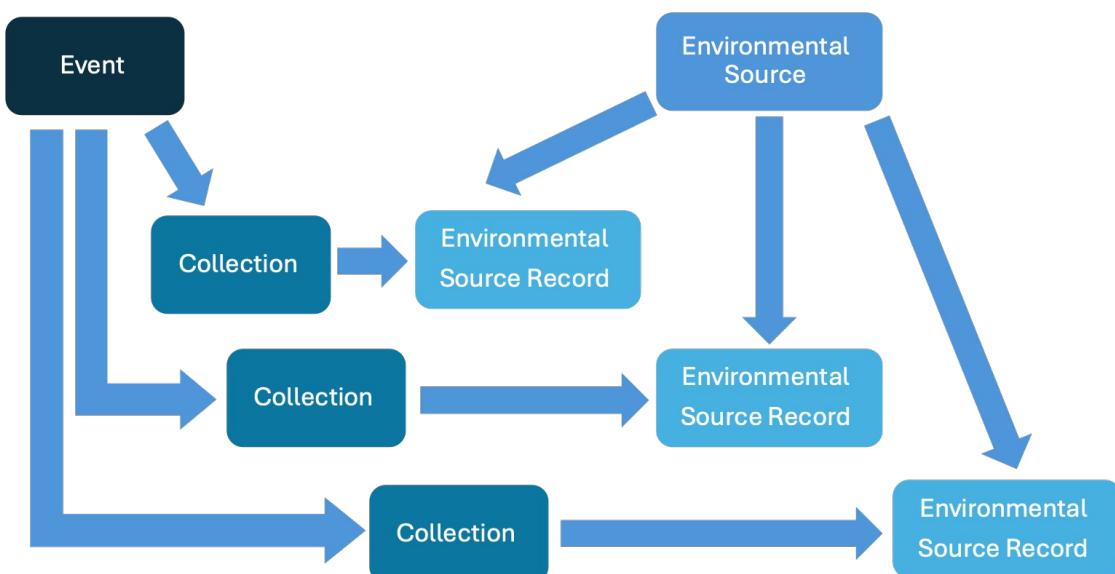
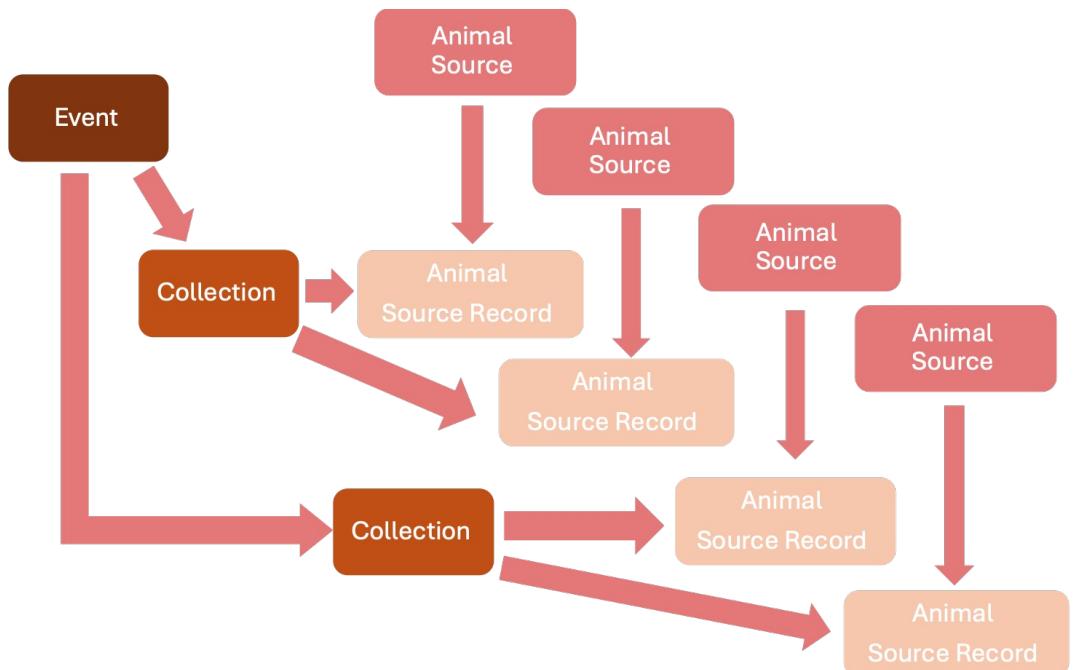
[Arthropod Source Record](#)

An Arthropod Source Record is the arthropods of the same species collected at the Arthropod Source at time t using a common Collection. For example, the mosquitoes of species X collected (Event) at the household in the forest (Arthropod Source) at time t (Arthropod Source Record) using a specific type of trap (Collection). This means that mosquitoes of a specific species collected by CO₂ traps deployed at the Arthropod Source at time t is an Arthropod Source Record and that mosquitoes of a specific species collected by any number of BG traps deployed at the Arthropod Source at time t is another Arthropod Source Record. The properties of an Arthropod Source Record include Record Number, Species, and the mosquitoes distributed by age, sex, and condition (females only), among others (see Data Dictionary).

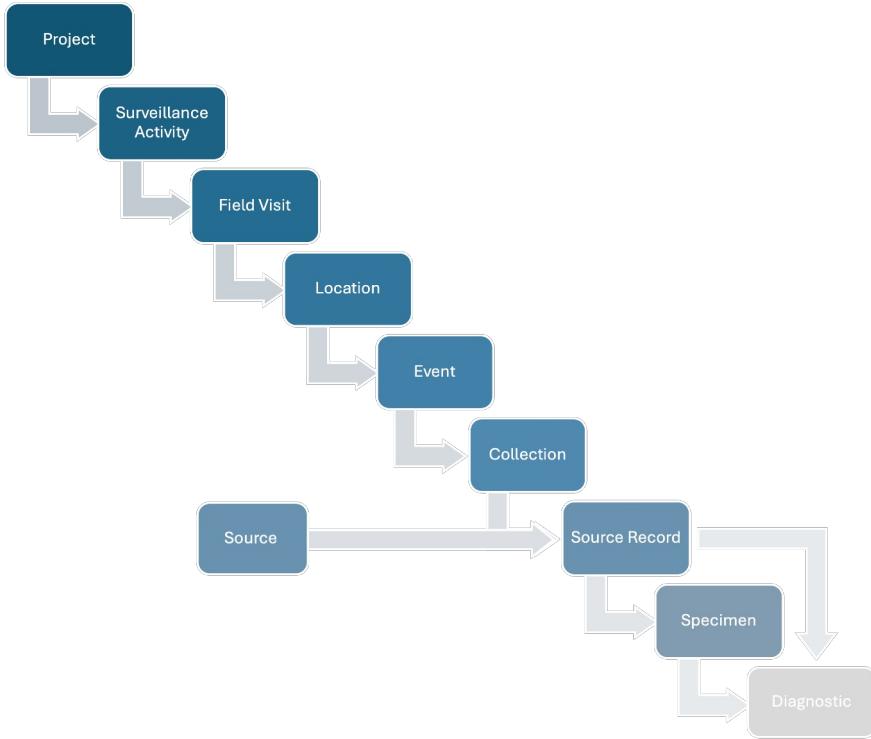
Similar to Environmental Sources, a key difference between the Arthropod Source and the Group and Animal Sources is that an Event can contain multiple Records of a single Arthropod Source (many Collections and many species at the same Arthropod Source at time t). Instead, an Event can contain a single Record of many Group and Animal Sources. An Event can only contain a single Arthropod Source, but many Records can be retrieved (one per Collection per species). On the opposite, many bats can be captured in a mist net (many Sources), but they can only provide one Record per Event (see Figure at the end of the section).

Similarly, another key difference is that “species” for Group and Animal Sources is a property of the Source, whilst for Arthropod Sources is a property of the Record. For example, mosquitoes obtained through CO₂ traps (Collection) deployed at a specific site (Source) will be identified and counted by species after the Collection and they will constitute an Arthropod Source Record.

If there is a failed Collection of arthropods at time t from the Arthropod Source) then it is the Collection that exists without Arthropod Source Records. But an Arthropod Source Record cannot be empty.

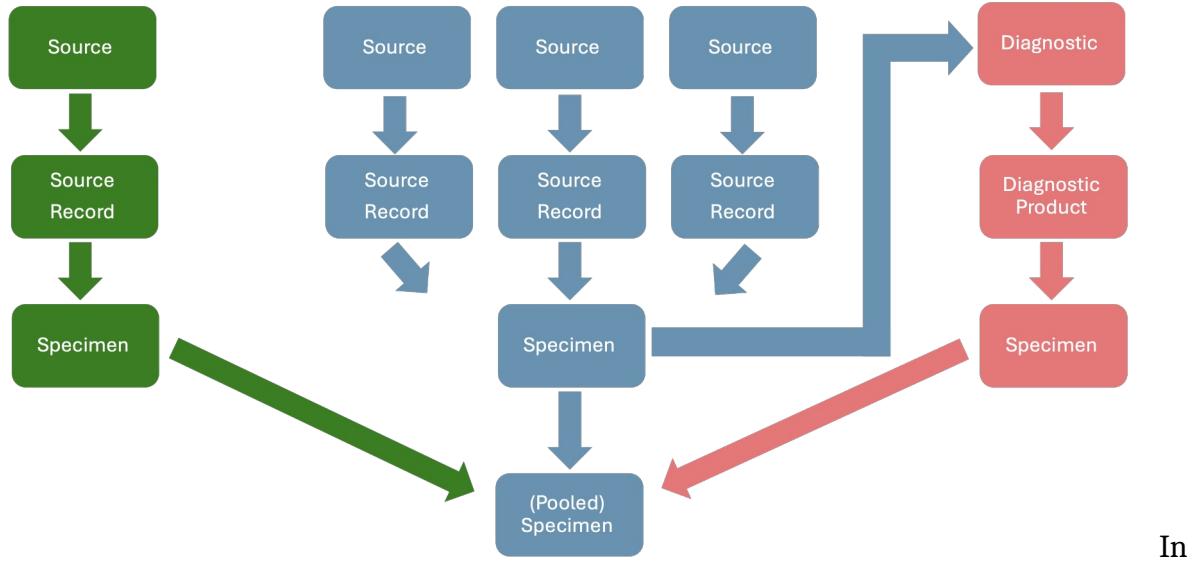


Specimen



Generalities

In the data model, Specimens are tissue or material used to conduct Diagnostics (See Diagnostics) and identify hazards or other potential health threats. **Specimens can be collected from Source Records or created from other Specimens (Pooled Specimens) or from products derived of Diagnostic tests (Diagnostic Products). Specimens can contain a single type of tissue coming from a single or multiple Source Records and Specimens, or multiple types of tissue coming from a single or multiple Source Records, Specimens, and Diagnostic Products (see Diagnostics below):**



summary:

- Specimens can be collected from a single Group or Animal Source Records. These Specimens can contain a single type of tissue (e.g., blood) or multiple types of tissue from the same Source Record (e.g., blood and saliva).
- Specimens can be created from a single Environmental and Arthropod Source Records. These Specimens can contain a single type of tissue only (e.g., a site with water can only provide water and a group of *Culex sp.* mosquitoes can only provide a subset of *Culex sp.* mosquitoes).
- Specimens can be created by mixing the tissue sourced by many Group, Animal, Environmental, and Arthropod Source Records. Depending on the type of Source Records involved and the tissues provided by each one of them, these Specimens can contain a single type of tissue or several of them.
- Specimens can be created from Diagnostic Products.
- Pooled Specimens with a single or multiple types of tissue can be created by mixing Specimens from a single or multiple Source Records with a single or multiple types of tissue, Specimens from Diagnostic Products, and other Pooled Specimens with a single or multiple types of tissue.

Specimens are characterized by Specimen ID, Tissue Type, Specimen Original Amount, Specimen Current Amount, their Origin, Ownership, among others (see Data Dictionary). Moreover, Specimens are stored and changes in the storage or movement of the Specimens from one storage facility to another can be multiple over time. Similarly, Specimens can be exported multiple times. Changes in storage associated with an exportation must occur after the exportation is completed and the Specimen can be stored in the destination facility.

Specimens without any amount of tissue left remain in the data model so the last storage, exportation, and use in Diagnostics can be traced.

Specimens of Group Source Records

An example of Group Source Specimen are feces collected from the bottom of a cage with animals of the same species but it is unknown which of the animals dropped the feces.

A Group Source used directly for a Diagnostic (e.g., assessment of fat in carcasses of animals belonging to a specific herd) is not a Specimen (see Sources And Source Records).

Group Source Specimens cannot be OBTAINED after the last date the Group Source was observed (the last Record of the Group Source). For example, it is possible to collect feces from a cage that restrains a Group Source longitudinally and also from the same cage after the animals of the Group Source were moved. In this case, the Specimen from the empty cage does not belong to the Group Source but to an Environmental Source. The sampling of the feces from the empty cage belongs to a different Event. To keep the connection between the corresponding Specimens, it is possible to cluster the Group Source Records and the Environmental Source Record (see Complexities).

Specimens of Animal Source Records

An example of Animal Source Specimen is 2 ml of blood taken from a lion.

An Animal Source used directly for a Diagnostic (e.g., ultrasound in an animal) is not a Specimen (see Sources And Source Records).

Animal Source Specimens cannot be OBTAINED after the last date the Animal Source was observed (the last Record of the Animal Source). For example, it is possible to collect feces from a cage that restrained an Animal Source longitudinally and also from the same cage after the animal was moved. In this case, the Specimen from the empty cage does not belong to the Animal Source but to an Environmental Source. The sampling of the feces from the empty cage belongs to a different Event. To keep the connection between the corresponding Specimens, it is possible to cluster the Animal Source Records and the Environmental Source Record (see Complexities).

The data model DOES accept Animal Source Specimens that are CREATED after the last date the Animal Source was documented (the last Record of the Animal Source). New Specimens can be generated during a Necropsy or from a stored Carcass. In this case, the date of Specimen creation is not necessarily the date when the Animal Source was found, when the Carcass was collected, or when the animal died, but after the storage of the Carcass or the date of the Necropsy (primary or secondary). It is possible to track if a Specimen was collected in the field (from the animal, carcass, during a field necropsy, or the ground near the animal), or in a facility from the carcass or during a primary or secondary Necropsy based on the information entered for Specimens.

Specimens from Environmental Source Records

An example of Environmental Source Specimen is 10 grams of soil collected from a specific site (Environmental Source). Another useful example are feces of unknown origin found in the field at time t (Source Record) at a specific site (Source).

In this second example it is possible to: i) collect the full feces or ii) take swabs from it. In the former case, the feces are the Source Record and the Specimen (the Specimen can be stored. The Source Record cannot be Stored). In the latter, the feces are just the Source Record whilst the swabs are the Specimens.

In the case of **Environmental Source Records**, their type of tissue is determined by the type of the Specimen Source Record. For example, water collected at time t (Environmental Source Record) from a pond (Environmental Source) can only yield tissue of type "water". If a Specimen contains tissue from a single Environmental Source Record, then, the type of tissue of the Specimen must be the same type of tissue of the Environmental Source.

The data model DOES accept Environmental Source Specimens that were CREATED after the last date the Environmental Source was visited (the last Record of the Environmental Source). New Specimens can be generated from a contained Environmental Source Record (for example, a bottle with sediment that is divided in Specimens later). In this case, the date of Specimen creation is not necessarily the date when the Environmental Source Record was obtained but later.

Specimens from Arthropod Source Records

An example of Arthropod Source Specimen is the set mosquitoes of the same species coming from the same Collection. These are basically sub-groups of the mosquitoes present in the corresponding Source Record. In vector-borne disease surveillance, this last type of Specimen is usually called "pools".

In the case of **Arthropod Specimens**, their type of tissue is determined by the **Arthropod Source Record**. If a Specimen contains tissue from a single Arthropod Source Record, then, the type of tissue of the Specimen is "arthropod" by default. In this case, the links of the Specimen with its origin allows to track the species of arthropod involved.

The data model DOES accept Arthropod Source Specimens that were CREATED after the last date the Arthropod Source was visited (the last Record of the Environmental Source). New Specimens can be generated from an Arthropod Source Record (for example, taking a new sub-set of mosquitoes from the Source Record and creating a new Specimen with mosquitoes of the species). In this case, the date of Specimen creation is not necessarily the date when the Arthropod Source Record was obtained but later.

Specimens with a mix of tissues coming from a unique or several Source Records

A bat is swabbed in its oral cavity and in its rectum but then the swabs are placed together in a tube and considered a single Specimen. Then, there is a single Specimen with a unique Source Record origin and with two types of tissue: "rectal swab" and "oral swab" in a tube.

It is possible also to get blood from two bats and mix it. The data model can accommodate this case because **Specimens can have multiple Source Record origins**. In the example, both bled bats (Source Records) are the origin of a single Specimen with "blood" tissue consisting in mm of blood.

Similarly, **it is possible to generate a Specimen by mixing tissue of different type from different Source Records**. For example, the blood (tissue) of a bat captured at time t (Animal Source Record) with the feces (tissue) collected from the bottom of the roost of the same bat at time t (Group Source Record). In this case, the mixed tissue (blood from an Animal Source and Feces from a Group Source) can be included in the data model as a single Specimen with two Source Records as origin and two types of tissue.

The key here is that Specimens are generated by mixing tissue coming from different Source Records, which is different than mixing Specimens. In the data model, mixing Specimens means mixing data Units already documented (see next).

Specimens from Diagnostic Products

Products generated by a Diagnostic method (see Diagnostic Products as Specimens below) can be stored and used as Specimen in further Diagnostics (e.g., use cDNA created as part of Diagnostic A used in a new RT-PCR, Diagnostic B). The data model can accommodate Diagnostic Products to be used as Specimens in future Diagnostics. In this case, the origin of these new “Specimens” are specific Diagnostic and not Source Records, and their type is a diagnostic product such as cDNA. The remaining properties of a Specimen from a Diagnostic Product are the same as for Specimens from Source Records (see Data Dictionary).

Diagnostic Products must be added to the data model as a Specimen, so this Specimen can be pooled with other Specimens.

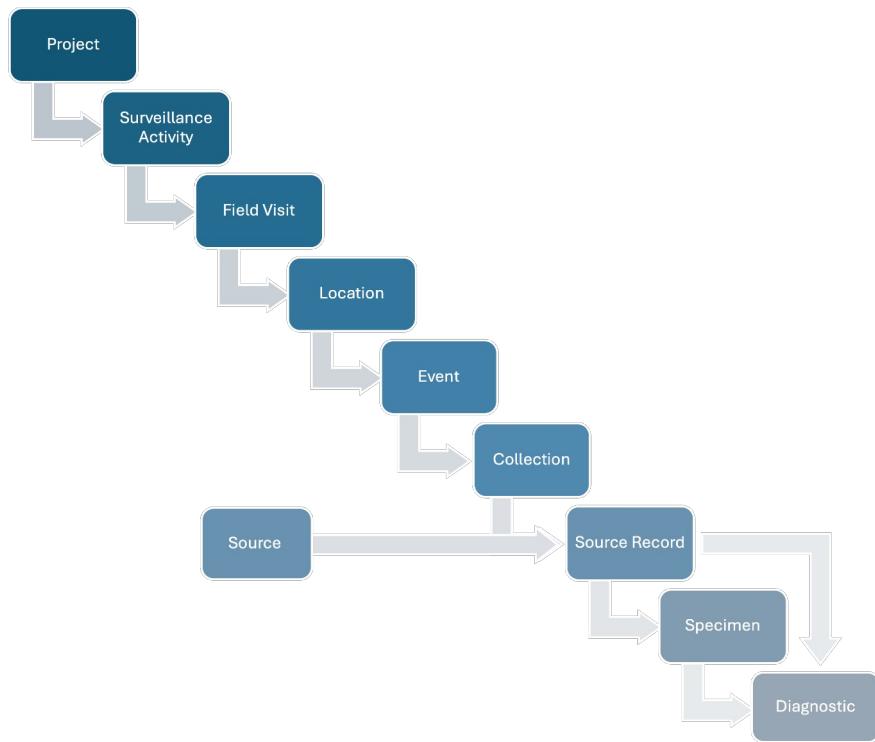
Pooled Specimens

Specimens can be created by mixing other Specimens of any origin. For example, mixing a Specimen from an Arthropod Source, a Specimen from an Animal Source, a Specimen from an Environmental Source, and a Specimen from an Arthropod Source (see below). The origin of Pooled Specimens is tracked in the data model. In the example, the origin of the Specimen is four Specimens and the new Specimen has potentially four types of tissue. The remaining properties are the same as for Specimens from Source Records (see Data Dictionary).

Specimens in Containers

In situations where space or materials are limited, it is possible that multiple Specimens are stored in a unique container. This approach is clearly not ideal because it can lead to cross-contamination and make actual Specimen tracing more complex. However, the data model has Container Identifier as a property of Specimens (see Data Dictionary). Specific properties for each individual Specimen within the container, such as type, quantity, etc, should allow their visual identification within the container.

Diagnostics



Diagnostics in the data model encompass various techniques used to identify hazards (biological, chemical, physical) or physiological problems in either Records of Animal and Group Sources or Specimens obtained from Source Records of any type. Diagnostics conducted directly in Group and Animals Sources can include general body condition (Group or Animal Source), the width of body fat (Group or Animal Source), an ultrasound (Animal Source). Diagnostics can range from advanced techniques such as metagenomics to basic observations of body condition. Whatever the Diagnostic methods used are, they must be reported in the metadata of the Surveillance Activity.

In the data model, Diagnostics can be conducted in a Laboratory or similar (see Laboratory below) but it is also possible to include field-based assays. Diagnostics can also be conducted by an individual (ranger, hunter, researcher, biologist, etc.) when they involve external or simple observations such as the body condition of an animal to assess a nutrition related hazard.

In the data model, it is considered that each Diagnostic is designed for a specific targeted hazard, such as a viral family or a particular virus species and, therefore, each Diagnostic - Hazard is a Diagnostic method.

Diagnostic properties include the type, method, and result. The type of Diagnostic refers to a general category of diagnostic techniques, such as histopathology, serology, imaging, molecular, clinical. Within each type, there are specific methods available, such as biopsy, ELISA assays, X-rays, PCR, or the width of fat in a herd, respectively. In the data model, **each Diagnostic has a unit of measurement that can either be qualitative or**

quantitative. The result of the diagnostic is reported as a value of those units. For example, an agglutination test can report the minimum dilution that causes observable agglutination. A PCR can be reported as presence of bands compatible with the targeted genome sequence or genetic sequence compatible with targeted organism if sequencing followed the genetic sequence amplification. **The interpretation of a Diagnostic (positive, negative, undetermined) corresponds to an “Interpretation” of the Diagnostic** (see Diagnostic Interpretation). Other properties of a Diagnostic include the Diagnostic ID, Diagnostic Code, Diagnostic Cross Reference ID, Diagnostic Cross Reference ID Origin, among others (see Data Dictionary).

Diagnostic Products as Specimens

In the data model, **Diagnostics can produce “Diagnostic Products” that are then considered a Specimen.** Diagnostic products as Specimens can be traced with respect to their storage, the quantities available, and any exportation process (See Storage and Export below). Furthermore, Specimens from Diagnostics Products can be used as in other Diagnostics (see Specimens above). For example, cDNA used in a new PCR essay. Basically, the data model accepts a new Specimen generated from a Diagnostic Product with the corresponding type and the origin of the Specimen is a Diagnostic instead of one or multiple Source Records or other Specimens (See Specimens above).

Complexities

Storage

In the data model, Specimens from all Sources (including Diagnostic Products) and Carcasses of Animal Sources can be stored, their storage can be tracked, and changes in storage can be traced.

Export

In the data model, Specimens from all Sources (including Diagnostic Products) and Carcasses of Animal Sources can be exported and exportations can be tracked.

Laboratories

The data model includes Laboratory entities. Laboratories can conduct Diagnostics to test for hazards in Specimens or in full Source Records (Field-based Diagnostics or simple Diagnostics conducted by people are also possible in the data model. See Diagnostics). Laboratory properties include address, manager, name, Laboratory ID, among others (Data Dictionary). It is also possible to store data regarding Laboratory capabilities in terms of diagnostic tests and storage, and their certifications (Bio safety levels, etc.)

Interpretation

Interpretation of a Hazard's detection in a Diagnostic

In the data model, Interpretation of a Diagnostic is the conclusion regarding the detection of a hazard using a Diagnostic targeting that specific hazard, based on a case definition for a positive, negative, or undetermined result provided in the Surveillance Activity metadata. Each Diagnostic receives one Interpretation only.

Interpretation of a Hazard's presence in a Specimen

In the data model, Interpretation of a Hazard in a Specimen is the conclusion regarding the presence or absence of a specific hazard in a Specimen, based on a case definition for a positive, negative, or undetermined Specimen provided in the Surveillance Activity metadata. The interpretation follows the results from the Diagnostic(s) conducted using the Specimen and the corresponding Diagnostic(s) Interpretation(s). Specimens can receive multiple Interpretations if they are used to conduct several Diagnostics to assess several hazards or if the same hazard is assessed more than once in different diagnostics.

Interpretation of a Hazard's presence in a Source Record

In the data model, Interpretation of a Hazard in a Source Record is the conclusion regarding the presence or absence of a specific hazard in a Source Record, based on a case definition for a positive, negative, or undetermined Source Record provided in the Surveillance Activity metadata. The interpretation follows the results of the Diagnostic(s) conducted using the Source Record, the Source Record Specimen(s), the corresponding Diagnostic(s), anomalies in the Source Record at a Event, and Necropsy findings.

Source Records can receive multiple Interpretations if multiple hazards are assessed in them or the same hazard is assessed more than once. Sources can have many Interpretations through several Source Records if multiple hazards are assessed in them at time t (Source Record), if the same hazard is assessed more than once at time t (Source Record), or if different or the same hazard are assessed over time (several Source Records of the same Source over time).

Clustering of Locations, Events, and Source Records

Clusters in Surveillance Activities

The units **Location, Event, and Source Record could be enough to record the data structure of a specific Surveillance Activity** gathering information during patrols (Field Visits) in Protected Areas (Locations) at points (Events) where dead animals (Source Records) are found at any given time. But another Surveillance Activity could have the following data structure:

- Visit (**Field Visit**)
 - Protected area (Spatial cluster level 1),
 - Zones within protected area (**Location**),

- Grid cells within each zone (Spatial cluster level 2),
 - Capture site (**Event**)
 - Mist nets at the capture site (**Collection**),
 - Bats captured (**Source Records**)

Another example is surveillance of wild animals in a live markets. One of the potential options to structure these data is:

- Visit (**Field Visit**)
 - City (Spatial cluster level 1)
 - Neighborhood (Spatial cluster level 2)
 - Market (**Location**)
 - Vendor (Spatial cluster level 3)
 - Stalls (Spatial cluster level 4)
 - Cage (**Event**)
 - Animals (**Source Records**)
 - Rectal Swab (**Specimens**)

Looking at the examples above, it is straightforward to understand that **the units Location, Event, and Collection might not be enough to accommodate the data of all Surveillance Activities and other units (“Clusters”) can be needed.**

A second layer of complexity is the potential need for nested Clusters and non-nested Clusters. The last example above corresponds to a series of nested Clusters where the stalls are within vendors and neighborhoods are within cities. But it is also possible to need non-nested spatial Clusters, for example, “Zip Code”. Zip Code A can include portions of cities 1 and 2, and Zip Code B can also include portions of cities 1, 2, and 3.

And a third layer of complexity is the potential need for spatial and temporal clusters. For example, it is possible that the data structure of the live market Surveillance Activity presented above has to be categorized in decades, year, season, season-year, etc. The following example adds the categorization of the data by season, no matter the markets visited or how many years the Surveillance Activity lasts:

- Season (**Temporal cluster 1**)
 - Visit (**Field Visit**)
 - City (Spatial cluster level 1)
 - Neighborhood (Spatial cluster level 2)
 - Market (**Location**)
 - Vendor (Spatial cluster level 3)
 - Stalls (Spatial cluster level 4)
 - Cage (**Event**)
 - Animals (**Source Records**)
 - Rectal Swab (**Specimens**)

Finally, the number of categories within each Cluster can also be different across Surveillance Activities. For example, two Surveillance Activities may include grid cells as one of their Clusters, however, one Surveillance Activity can include grid cells A - R, whilst the another Surveillance Activity can include grid cell A - W (more categories). In summary:

- Clusters units can be needed
- The Clusters across Surveillance Activities can be different
- What these Clusters are grouping across Surveillance Activities can be different
- The number of categories can be different among Clusters, within and between Surveillance Activities
- Nested, Non-nested or both types of Clusters can be needed
- Spatial, Temporal or both Clusters types of Clusters can be needed

Clusters in the Data Model

To accommodate these needs in data structure, **the data model allows the inclusion of Clusters** between the Source Record and Event (in the absence of Collection) or Collection and Event, Event and Location, and Location and Field Visit. The data model also allows the inclusion of an undetermined number of nested and non-nested Clusters at each of these levels, and the inclusion of spatial and temporal Clusters.

Unavoidably, the number of Clusters, what Clusters represent, what they cluster, the number of categories per Cluster, and the data to be collected from each of these extra units will vary among Surveillance Activities. Therefore, Cluster properties must be reported in the Surveillance Activity metadata. In the data model, the only default property for each Cluster are the identifier, the cross identifier, the origin of the cross identifier, and a description. Other potential properties must be documented in a separate file (e.g., an excel sheet) with common identifiers to allow joining the clusters with the corresponding data.

An interesting case study is the collection of Specimens from reindeer carcasses when they are found dead and also from the soil underneath each carcass. In this Surveillance Activity, an Event is a site where dead animals (at least one) are found. So, if two or more carcasses are found at the same site, then the Event contains two Animal Sources, but also two Environmental Sources providing soil Specimens. However, the interest of the researchers is to maintain the connection between the soil Specimens collected below each Animal Source and the Specimens from each Animal Source. Basically, they want to keep track of the soil Specimen that was below each Animal Source. In this case, Cluster unit can be used to group the corresponding Soil Specimen and Animal Specimen in two pairs while keeping the four specimens under the same Event.

Surveillance Activities

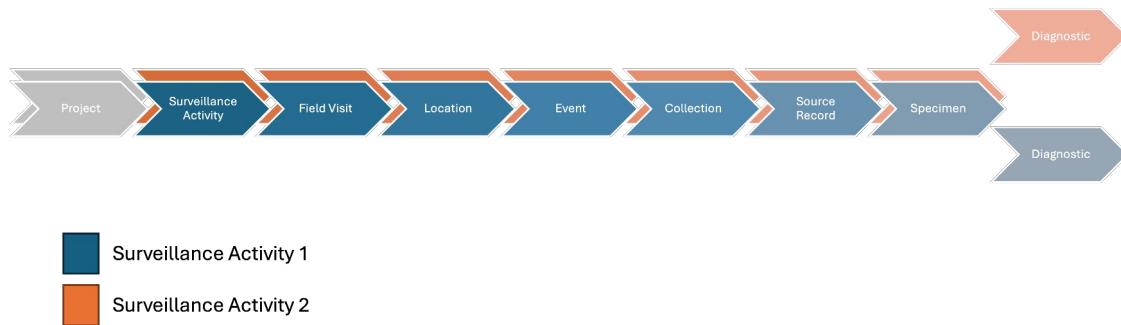
Initially, it was mentioned that “**Field Visits, Locations, Events, Sources, Source Records, and Diagnostics usually belong to a single Surveillance Activity**. This is the Surveillance Activity that lead to the Field Visits at different Locations to document Events, collect

Sources and Specimens, perform Diagnostics for a specific hazard, and provide Diagnosis for Diagnostics, Specimens, and Sources".

Furthermore, it was established that "**a Surveillance Activity usually includes Field Visits, Locations, Events, Sources, Source Records, and Diagnostics**".

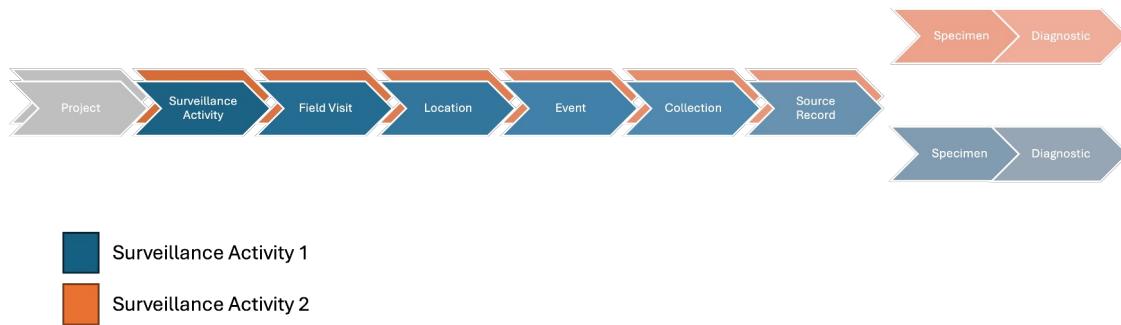
Here it is explained what are the exceptions to these two general statements and how the data model can handle them.

Field Visits up to Specimen belong to two or more Surveillance Activities



Two or more Surveillance Activities used the exact same methodology except for the Diagnostics (they target different hazards but the diagnostics are conducted using the same specimens). For example, the same rodents are trapped and sampled but they are tested for coronaviruses as part of Surveillance Activity 1 and Rickettsia *sp* as part of Surveillance Activity 2. In this case the Field Visits, Locations, Events, Collections, Source Records, and Specimens, belong to both Surveillance Activities. Instead, the Diagnostics and Diagnosis belong to one of them only.

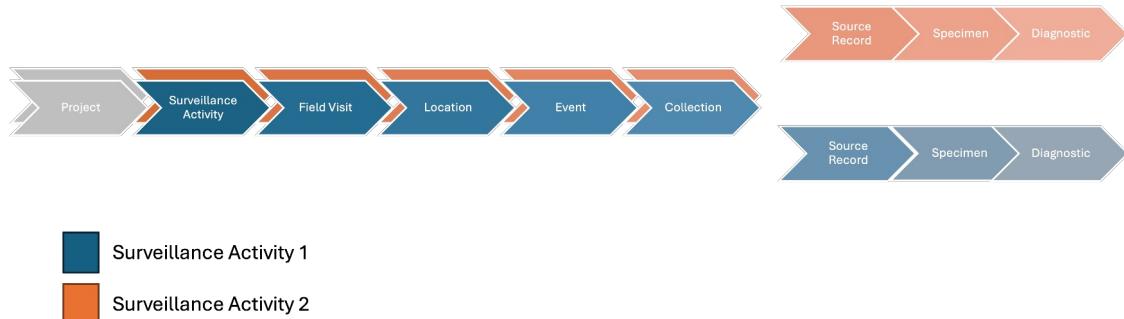
Field Visits up to Source Records belong to two or more Surveillance Activities



This can happen when two or more Surveillance Activities overlap in their Field Visits up to Source Records but the Specimens up to Diagnostics are different. For example, the same rodents are trapped and sampled during the same Collection but Surveillance Activity 1 uses rectal swabs to test for coronaviruses whilst Surveillance Activity 2 uses blood for Rickettsia *sp*. In this case the Field Visits, Locations, Events, Collections, and Source Records

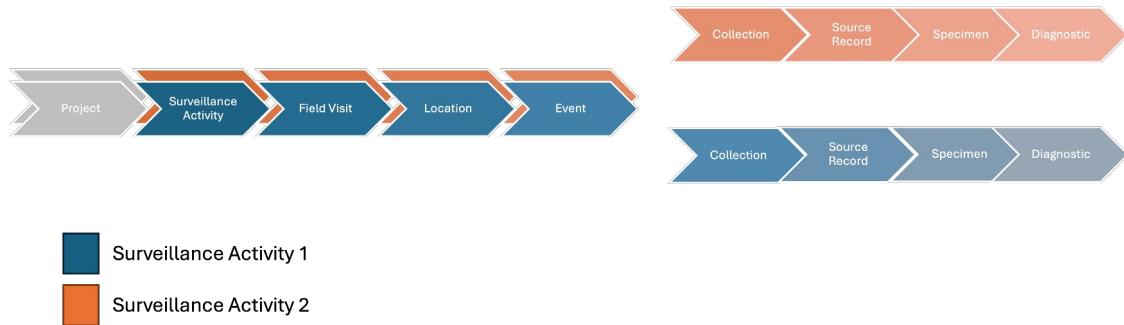
belong to both Surveillance Activities. Instead, the Specimens, Diagnostics, and Diagnosis belong to one of them only.

Field Visits up to Collections belong to two or more Surveillance Activities



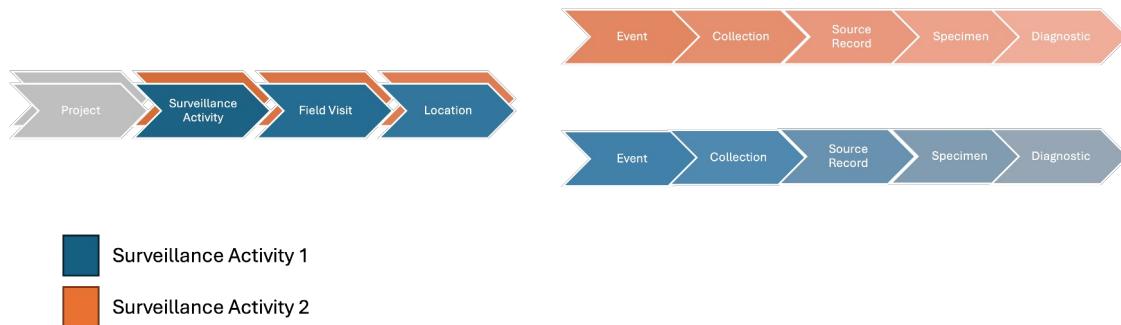
This can happen when two or more Surveillance Activities overlap in their Field Visits up to Collections but the Source Records up to Diagnostics are different. For example, bats are collected using the same mist nets; however, only Megabats are tested for Ebola as part of Surveillance Activity 1. Instead, only Microbats are tested for coronaviruses as part of Surveillance Activity 2. In this case the Field Visits, Locations, Events, and Collections belong to both Surveillance Activities. The Source Records, Specimens, Diagnostics, and Diagnosis belong to one of them only.

Field Visits up to Events belong to two or more Surveillance Activities



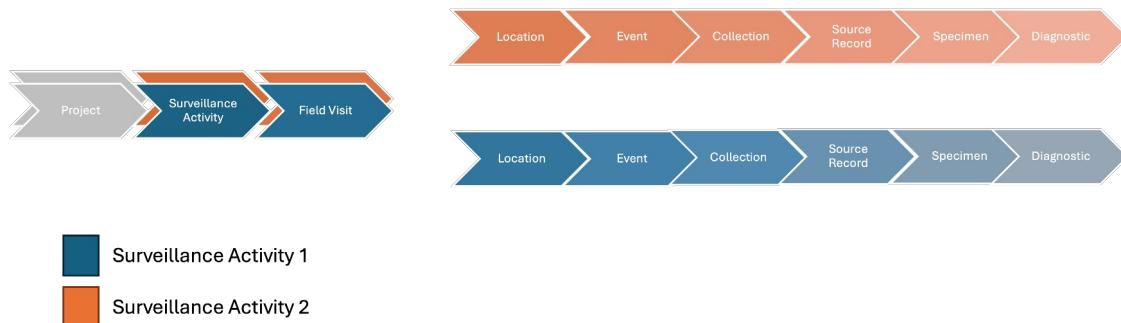
This can happen when two or more Surveillance Activities overlap in their Field Visits up to Events, but the Collection up to Diagnostics are different because they have different goals. For example, water is collected from Event A as part of Surveillance Activity 1 and a mosquitos are also collected from Event A as part of Surveillance Activity 2. In this case the Field Visits, Locations, and Events belong to both Surveillance Activities. Instead, the Collections, Source Records, Specimens, Diagnostics, and Diagnosis belong to one of them only.

Field Visits and Locations belong to two or more Surveillance Activities



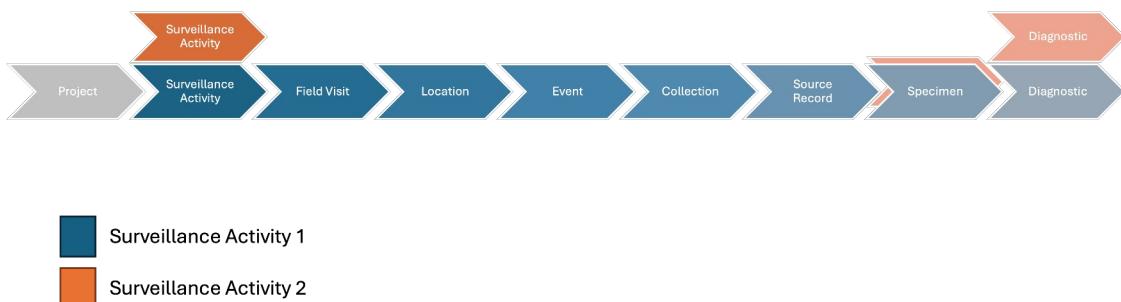
This can happen when two or more Surveillance Activities overlap in their Field Visits and Locations but the Events up to Diagnostics are different. For example, Surveillance Activity 1 aims to capture bats using mist nets and Surveillance Activity 1 aims to capture rodents. The Field Visit and the Locations could be the same but the capturing of the bats can occur at night and the capture of rodents can occur early morning. In this case the Field Visits and Locations belong to both Surveillance Activities. Instead, the Events, Collections, Source Records, Specimens, Diagnostics, and Diagnosis belong to one of them only.

Field Visits belong to two or more Surveillance Activities



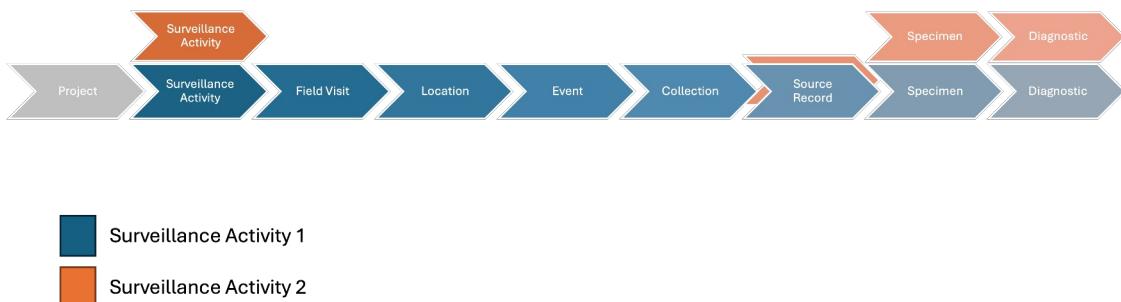
This can happen when two or more Surveillance Activities overlap in their Field Visits but the Locations up to Diagnostics are different. Field Visit can be common because it facilitates logistics. For example, coming back from the forest after collecting chimpanzee urine as part of Surveillance Activity 1 and on the way back, a visit is made to a Rehabilitation Center to sample animals as part of Surveillance Activity 2.

Surveillance Activity contains only Specimens and Diagnostics



This can happen when Surveillance Activity 2 uses Specimens collected as part of Surveillance Activity 1 to test them again for the same or different hazard. For example, Specimens from bats collected ten years ago will be used in a new study to test them for SARS-CoV-2. The Specimen belong to both Surveillance Activities. The Diagnostics are the only new entity generated as part of Surveillance Activity 2, and it is clear that Specimens from Surveillance Activity 1 were used in Surveillance Activity 2.

Surveillance Activity contains only Source Records, Specimens, Diagnostics, and Diagnosis



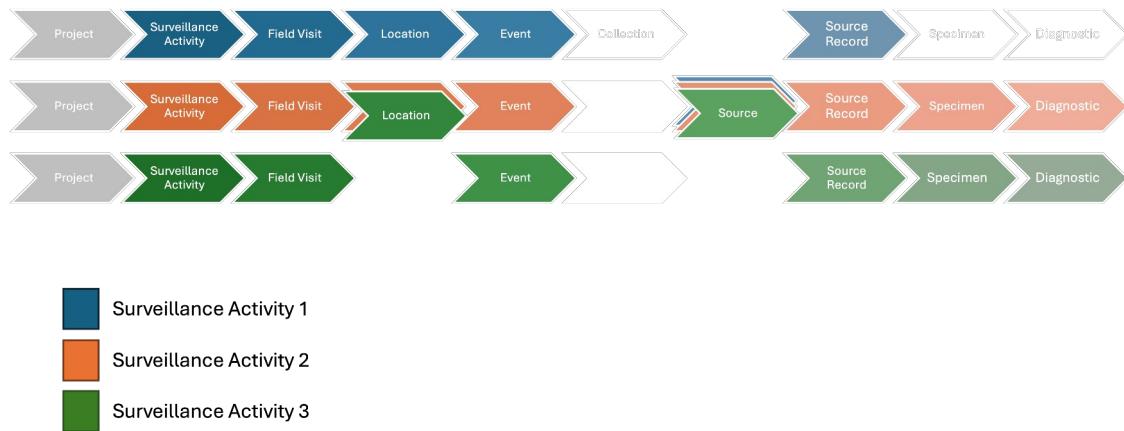
This can happen when Surveillance Activity 2 generates new Specimens from carcasses of Source Records collected as part of Surveillance Activity 1 and tests these new Specimens for a hazard. For example, carcasses of bats collected ten years ago will be used in a new study, Surveillance Activity 2, to get new Specimens and test them for SARS-CoV-2. The Source Records belong to both Surveillance Activities. The new Specimens and Diagnostics are the only new entities generated as part of Surveillance Activity 2, and it is clear that Source Records (the carcasses in this particular case) from Surveillance Activity 1 were used in Surveillance Activity 2.

Same Source in different Surveillance Activities

The health of the same animal could be assessed under different Surveillance Activities. For example, a ranger finds a sick animal in a specific date and assess its health and potential cause of disease as part of Surveillance Activity 1. Then, the animal is taken to a rehabilitation center where its health is assessed again at admission and samples are collected for testing as part of Surveillance Activity 2. Finally, the animal health at the rehabilitation center is assessed again three months later and samples are collected again

in order to learn what pathogens are circulating within the facility as part of Surveillance Activity 3.

In this case there are three Projects, Surveillance Activities, Field Visits, Events, and Collections independently of each other. There are two Locations. The Animal Source belongs to three Surveillance Activities. The Source Records and Specimens belong to a single Surveillance Activity just like the Diagnostics completed in Surveillance in Surveillance Activity 2 and 3.

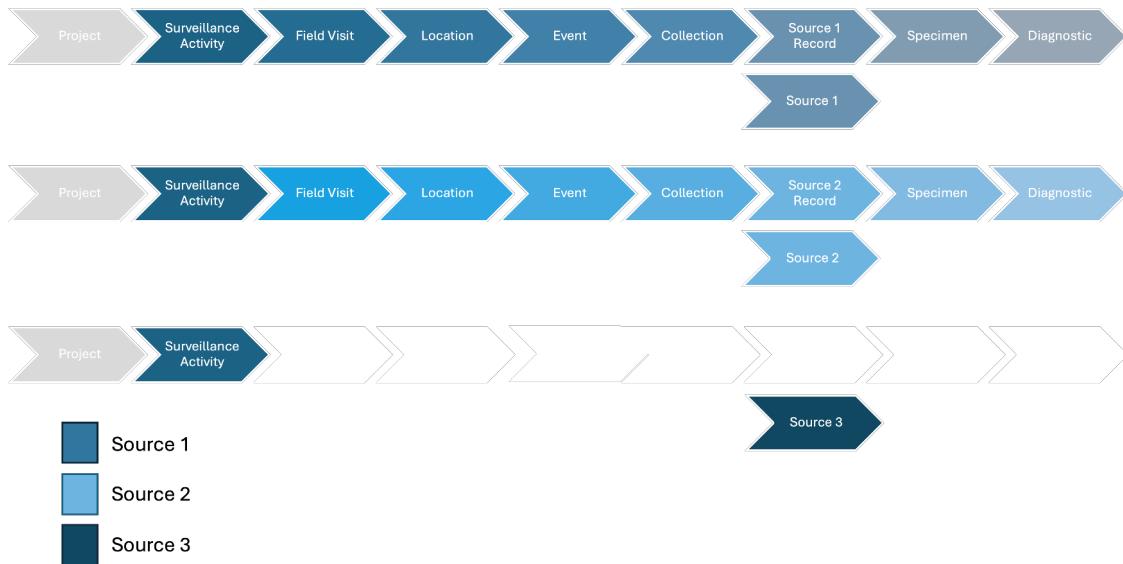


Therefore, Surveillance Activities can be interconnected through common units or the reuse of units generated by previous Surveillance Activities.

Sources in Surveillance Activity but not Present in any Event

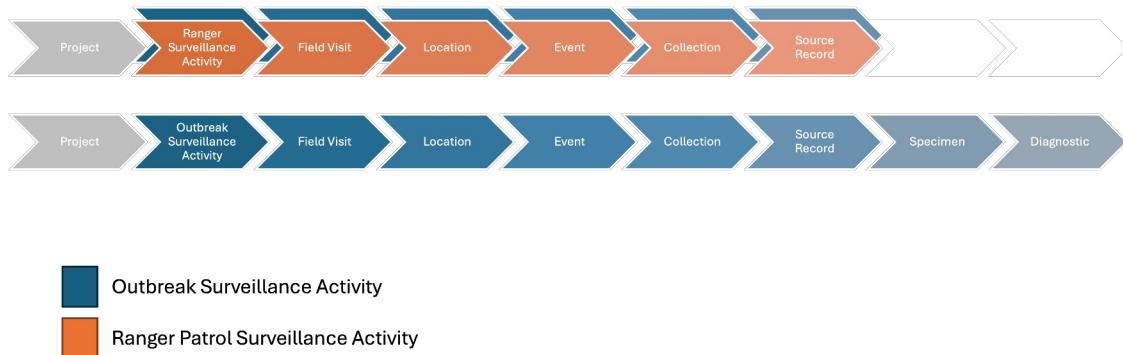
Studies that track marked individuals over time could succeed in capturing all individually identified animals, so all these Sources are included as Source Records at least once during the study period. However, it is also possible that only a proportion of the individualized Sources are captured or sight during the Surveillance Activity, so these Sources are not present as Source Record of any Event. For the second possibility, it is still important to track the Sources that were part of the sampling frame and censoring them when they were not part of any Event.

For this reason, the data model can assign a Surveillance Activity to a Source without including any Field Visits, Location, Event, or Collection. When the study is completed, it will be possible to identify all the Sources involved in the study including those that were never captured (Source 3 in the figure below).



Outbreak Investigation

An outbreak can contain elements associated with two or more Surveillance Activities. For example, the first detection of the outbreak could have been done by a citizen or by rangers patrolling a protected area. The Field Activity, Location, Event, Collection (if any), Source Records, and Specimens collected when the Outbreak is discovered belong to the “Citizen Science” or “Ranger Patrol” Surveillance Activity. However, they also belong to the “Outbreak Investigation” Surveillance Activity, together with Field Activities up to the Diagnostics associated exclusively with the Outbreak Investigation.



From Group Source to Animal Source

The data model can handle the conversion of an individual in a Group Source into an Animal Source. Animal Sources have a property to identify them as previous members of a Group Source.

The decision to convert an individual of a Group Source into an Animal Source could occur because: i) it was decided to start recording animals of a Group Source at the individual

level including their Specimens and Diagnostics, ii) field Necropsies are conducted with the Carcasses of animals that belong to a Group Source (Necropsy data in the data model are linked to individual animals only), iii) all or some Carcasses of a Group Source are collected and stored or exported (Carcass data in the data model are linked to individual animals only), and iv) Necropsies are conducted with the Carcasses of animals belonging to a Group Source in a facility and again, Necropsy data in the data model are linked to individual animals only. The **data model accepts Diagnostics conducted directly on a Group Source or Diagnostics conducted using Group Source Specimens**, such as body condition in the overall Groups or testing feces taken from a cage occupied by 2 animals of the same species. Therefore, in these cases, it is not necessary to convert individuals of a Group Source to Animal Sources.

In the first case, all or some of the animals of a Group Source could start being recorded at the individual level. If only some of the animals of a Group Source are recorded at the individual level, then it is possible to have an Event at time t with Group Source Records and Animal Source Records of animals that belonged to the Group Source at time t' that are considered Animal Sources at time t . The original Group Source does not include the animals that are converted to Animal Sources since time t . Therefore, the count of individuals in the Group Source Record must not include the new Animal Sources. It is also possible that starting at time t in a new Field Activity, all the animals of a Group Source are recorded as Animal Sources. In this case there are no more records of the Group Source since time t .

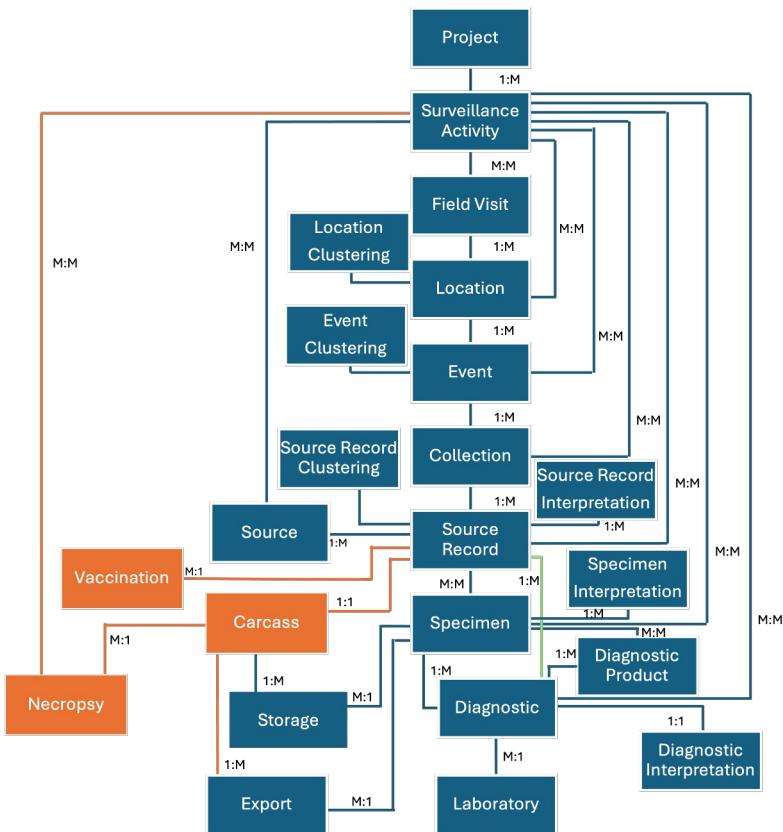
In the second case, a Necropsy conducted with the Carcass of an animal of a Group Source leads to the same process explained in the previous paragraph. The animal must be documented at the individual level because, in the data model, **Necropsy data are tied to Animal Sources only**.

Lastly, the collection of a Carcass of an animal of a Group Source and potential subsequent Necropsies also leads to the same process. The animal of a Group Source must be documented at the individual level because, in the data model, **Carcass and Necropsy data are tied to Animal Sources only**.

It is important to highlight that: **conversion from an individual of a Group Source to Animal Source is complete and irreversible**. This means that new Animal Source Records cannot be included in the count of animals in a Group Source, Animal Sources cannot be converted back to be part of the Group Source, and Specimens of the new Animal Sources are not Specimens of the original Group Source. Secondly, when it is decided that animals in a Group Source will be documented as Animal Sources there is a change of methodology and, most likely, the new Animal Sources should receive a new and single Surveillance Activity. It is possible to keep a connection between these Surveillance Activities in the data model (between the Group Source only one and the Groups Source - Animal Sources one). Animal sources have a property to link them to their original Group Source also. It is possible that the original Surveillance Activity methodology included an eventual change in the recording of animals in a Group Source as Animal Sources and, consequently, only a common unique Surveillance Activity is enough.

All Units in the Data Model and All Relationships

Considering the details explained in the Complexities section, a summary of the relationships in the data model is provided in the following figure (the orange Units and connections apply to Animal Sources only. The green line apply to Group and Animal Source Records only):



Wildlife Health Data Model Dictionary

Project

| Variable | Label | Definition | Type | Mandatory |
|-------------------------------|---------------------------------|---|--------------------|-----------------|
| ProjectID | Project Identifier | System-provided Project identifier | Integer | System-assigned |
| ProjectName | Project Name | User-given Project name | String | Yes |
| ProjectCrossReferenceID | Project Cross Identifier | The identifier of the Project under another nomenclature system. For example, in a different database or document where other identification for the same Project is used | String | No |
| ProjectCrossReferenceIDOrigin | Project Cross Identifier Origin | The location/database/document where other identification for the same Project is used | String | No |
| ProjectCountry | Project Countries | The countries where the Project takes place | Multiple selection | Yes |
| ProjectFunderOrganization | Project Funder Organization | The organizations providing the funding to conduct the Project | Multiple selection | Yes |
| ProjectLeadingOrganization | Project Leading Organization | The organization/institution leading the Project execution | Single selection | Yes |
| ProjectLeader | Project Leader | The person leading the Project. Usually affiliated to the Leading Organization | Single selection | Yes |
| ProjectOtherOrganization | Project Other Organizations | Other organizations/partners/institutions involved in the execution of the Project (e.g., Laboratories, NGOs, etc.) | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|-----------------------------|------------------------------|---|---------|-----------|
| ProjectPurpose | Project Purpose | Description of the objectives and goals of the Project | String | Yes |
| ProjectGroupSource | Project Group Source | Answer to the question: 'Are new Group Source(s) or from previous Surveillance Activities of interest for the Project?' | Boolean | Yes |
| ProjectAnimalSource | Project Animal Source | Answer to the question: 'Are new Animal Source(s) or from previous Surveillance Activities of interest for the Project?' | Boolean | Yes |
| ProjectEnvironmenta lSource | Project Environmental Source | Answer to the question: 'Are new Environmental Source(s) or from previous Surveillance Activities of interest for the Project?' | Boolean | Yes |
| ProjectArthropodSou rce | Project Arthropod Sources | Answer to the question: 'Are new Arthropod Source(s) or from previous Surveillance Activities of interest for the Project?' | Boolean | Yes |
| ProjectBiologicalHaza rd | Biological Hazards | The type(s) of biological health hazard(s) of interest for the Project (e.g., 'Virus', 'Bacteria', 'Protozoa', 'Insecta') | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|-----------------------|----------|--|--------------------|-----------|
| ProjectVirusHazard | Virus | The viruses of interest for the Project. It can be as specific as a clade/variant/etc of a species or as general as 'Virus' (e.g., 'Virus', 'SARS-CoV-2 Omicron variant', 'H5N1 Highly Pathogenic Avian Influenza clade 2.3.3.4b') | Multiple selection | No |
| ProjectBacteriaHazard | Bacteria | The bacteria of interest for the Project. It can be as specific as a strain/serovar/etc of a species or as general as 'Bacteria' (e.g., 'Group-A Streptococcus', 'Mycobacterium bovis') | Multiple selection | No |
| ProjectProtozoaHazard | Protozoa | The protozoa of interest for the Project. It can be as specific as a strain/serovar/etc of a species or as general as 'Protozoa' (e.g., 'Plasmodium relictum', 'Toxoplasma gondii') | Multiple selection | No |
| ProjectFungiHazard | Fungi | The fungi of interest for the Project. It can be as specific as a strain/serovar/etc of a species or as general as 'Fungi' (e.g., 'Pseudogymnoascus destructans', 'Batrachochytrium dendrobatidis') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|----------------------------------|----------------------|---|--------------------|-----------|
| ProjectPrionHazard | Prion | The prion of interest for the Project. It can be as specific as the protein subtype or as general as 'Prion' (e.g., 'Chronic-wasting disease', 'Scrapie', 'Mad cow disease) | Multiple selection | No |
| ProjectTransmissibleTumourHazard | Transmissible Tumour | The transmissible tumour of interest for the Project (e.g., 'Devil facial tumor 1', 'Devil facial tumor 2') | Multiple selection | No |
| ProjectNematodaHazard | | The nematode of interest for the Project. It can be as specific as a strain/serovar/etc of a species or as general as 'Nematode' (e.g., 'Toxocara canis', '') | Multiple selection | No |
| ProjectPlatyhelminthHazard | Platyhelminth | The platyhelminth of interest for the Project. It can be as specific as a subspecies or as general as 'Platyhelminth' (e.g., 'Fasciola gigantica') | Multiple selection | No |
| ProjectArthropodHazard | Arthropod | The arthropod of interest for the Project. It can be as specific as a subspecies or as general as 'Arthropod' (e.g., 'Sarcoptes scabiei', 'Rhipicephalus sanguineus') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--------------------------------------|---|--------------------|-----------|
| ProjectChemicalHazard | Chemical Hazards | The type(s) of chemical health hazard(s) of interest for the Project (e.g., 'Heavy Metal', 'Organochlorine Pesticides', 'Cholinesterase-inhibbiting Pesticide', 'Toxins') | Multiple selection | No |
| ProjectHeavyMetalHazard | Heavy Metal | The heavy metal of interest for the Project. It can be as specific as a chemical form of the heavy metal or as general as the common name of the metal (e.g., 'Lead', 'Methylmercury') | Multiple selection | No |
| ProjectOrganochlorinePesticidesHazard | Organochlorine Pesticides | The organochlorine pesticides of interest for the Project. It can be as specific as a type of organochlorine pesticides or as general as 'Organochlorine Pesticide' (e.g., 'DDT', 'Lindane') | Multiple selection | No |
| ProjectCholinesteraseInhibbitingPesticideHazard | Cholinesterase-inhibbiting Pesticide | The cholinesterase-inhibbiting pesticide of interest for the Project. It can be as specific as a type of cholinesterase-inhibbiting pesticide or as general as 'Cholinesterase-inhibbiting Pesticide' (e.g., 'Diazinon', 'Malathion') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|----------------------------|-----------------------|--|--------------------|-----------|
| ProjectToxinsHazard | Toxins | The toxin of interest for the Project. It can be as specific as the protein subtype or as general as 'Toxin' (e.g., 'Clostridium botulinum toxin type C', 'Tetanus toxin') | Multiple selection | No |
| ProjectPhysicalHazard | Physical Hazards | The type(s) of physical health hazard(s) of interest for the Project (e.g., 'Trap', 'Vehicle Collisions', 'Entanglement', 'Burning', 'Electrocution') | Multiple selection | No |
| ProjectPhysiologicalHazard | Physiological Hazards | The type(s) of physiological health problems of interest for the Project (e.g., 'Hypocalcemia', 'Hyperkalemia', 'Amyloid A amyloidosis') | Multiple selection | No |
| ProjectStartDate | Project Start Date | The starting date of the Project | Date | Yes |
| ProjectEndDate | Project End Date | The date when the Project is projected/planned to end or officially ended | Date | No |
| ProjectUrl | Project URLs | URLs of the Project or of the organizations/institutions involved in the Project | String | No |

Surveillance Activity

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|--------------------|-----------------|
| SurveillanceActivityID | Surveillance Activity Identifier | System-provided Surveillance Activity identifier | Integer | System-assigned |
| SurveillanceActivityCode | Surveillance Activity Code | User-provided Surveillance Activity code | String | Yes |
| SurveillanceActivityCrossReferenceID | Surveillance Activity Cross Identifier | The identifier of the Surveillance Activity under another nomenclature system. For example, in a different database or document where other identification for the same Surveillance Activity is used | String | No |
| SurveillanceActivityCrossReferenceIDOrigin | Surveillance Activity Cross Identifier Origin | The location/database/document where other identification for the same Surveillance Activity is used | String | No |
| SurveillanceActivityType | Surveillance Activity Type | The type of surveillance associated with the Surveillance Activity (e.g., Targeted, Scanning, Outbreak Investigation, or Research). If two or more surveillance types are involved, then two or more Surveillance Activities are needed so each one receives a single type of surveillance | Multiple selection | Yes |
| SurveillanceActivityGrantName | Surveillance Activity Grant Name | The name of the grant funding the Surveillance Activity. If there is not a grant involved, type 'N/A' | String | Yes |
| SurveillanceActivityGrantNumber | Surveillance Activity Grant Number | The number of the grant funding the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityLeader | Surveillance Activity Leader | The person leading the Surveillance Activity | Single selection | Yes |
| SurveillanceActivityLeaderOrganization | Surveillance Activity Leader Organization | The affiliation of the person leading the Surveillance Activity | Single selection | Yes |
| SurveillanceActivityLeaderOrganizationROR | Surveillance Activity Leader Organization ROR | The ROR of the affiliation of the person leading the Surveillance Activity | String | No |
| SurveillanceActivityOtherIndividuals | Surveillance Activity Other Individuals | Other Individuals relevant for the Surveillance Activity | Multiple selection | No |
| SurveillanceActivitySectorsInvolved | Surveillance Activity Sectors Involved | The environmental, animal, human, wildlife sectors involved in the execution of the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityOrganizationsInvolved | Surveillance Activity Organizations Involved | Organizations/partners/institutions involved in the execution of the Surveillance Activity (e.g., Laboratories, NGOs, etc.) | Multiple selection | Yes |
| SurveillanceActivityCountry | Country or Countries Included in the Surveillance Activity | The countries where the Surveillance Activity takes place | Multiple selection | Yes |
| SurveillanceActivityBiologicalHazard | Biological Hazards | The type(s) of biological health hazard(s) of interest for the Surveillance Activity (e.g., 'Virus', 'Bacteria', 'Protozoa', 'Insecta') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|--|----------|--|--------------------|-----------|
| SurveillanceActivityViru
sHazard | Virus | The viruses of interest for the Surveillance Activity. It can be as specific as a clade/variant/etc of a species or as general as 'Virus' (e.g., 'Virus', 'SARS-CoV-2 Omicron variant', 'H5N1 Highly Pathogenic Avian Influenza clade 2.3.3.4b') | Multiple selection | No |
| SurveillanceActivityBac
teriaHazard | Bacteria | The bacteria of interest for the Project. It can be as specific as a strain/serovar/etc of a species or as general as 'Bacteria' (e.g., 'Group-A Streptococcus', 'Mycobacterium bovis') | Multiple selection | No |
| SurveillanceActivityPro
tozoaHazard | Protozoa | The protozoa of interest for the Surveillance Activity. It can be as specific as a strain/serovar/etc of a species or as general as 'Protozoa' (e.g., 'Plasmodium relictum', 'Toxoplasma gondii') | Multiple selection | No |
| SurveillanceActivityFu
ngiHazard | Fungi | The fungi of interest for the Surveillance Activity. It can be as specific as a strain/serovar/etc of a species or as general as 'Fungi' (e.g., 'Pseudogymnoascus destructans', 'Batrachochytrium dendrobatidis') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|---|----------------------|---|--------------------|-----------|
| SurveillanceActivityPrionHazard | Prion | The prion of interest for the Project. It can be as specific as the protein subtype or as general as 'Prion' (e.g., 'Chronic-wasting disease', 'Scrapie', 'Mad cow disease') | Multiple selection | No |
| SurveillanceActivityTransmissibleTumourHazard | Transmissible Tumour | The transmissible tumour of interest for the Surveillance Activity (e.g., 'Devil facial tumor 1', 'Devil facial tumor 2') | Multiple selection | No |
| SurveillanceActivityNematodaHazard | Nematode | The nematode of interest for the Surveillance Activity. It can be as specific as a strain/serovar/etc of a species or as general as 'Nematode' (e.g., 'Toxocara canis', '') | Multiple selection | No |
| SurveillanceActivityPlatyhelminthHazard | Platyhelminth | The platyhelminth of interest for the Surveillance Activity. It can be as specific as a subspecies or as general as 'Platyhelminth' (e.g., 'Fasciola gigantica') | Multiple selection | No |
| SurveillanceActivityArthropodHazard | Arthropod | The arthropod of interest for the Surveillance Activity. It can be as specific as a subspecies or as general as 'Arthropod' (e.g., 'Sarcoptes scabiei', 'Rhipicephalus sanguineus') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--------------------------------------|---|--------------------|-----------|
| SurveillanceActivityChemicalHazard | Chemical Hazards | The type(s) of chemical health hazard(s) of interest for the Surveillance Activity (e.g., 'Heavy Metal', 'Organochlorine Pesticides', 'Cholinesterase-inhibbiting Pesticide', 'Toxins') | Multiple selection | No |
| SurveillanceActivityHeavyMetalHazard | Heavy Metal | The heavy metal of interest for the Surveillance Activity. It can be as specific as a chemical form of the heavy metal or as general as the common name of the metal (e.g., 'Lead', 'Methylmercury') | Multiple selection | No |
| SurveillanceActivityOrganochlorinePesticidesHazard | Organochlorine Pesticides | The organochlorine pesticides of interest for the Surveillance Activity. It can be as specific as a type of organochlorine pesticides or as general as 'Organochlorine Pesticide' (e.g., 'DDT', 'Lindane') | Multiple selection | No |
| SurveillanceActivityCholinesteraseInhibbitingPesticideHazard | Cholinesterase-inhibbiting Pesticide | The cholinesterase-inhibbiting pesticide of interest for the Surveillance Activity. It can be as specific as a type of cholinesterase-inhibbiting pesticide or as general as 'Cholinesterase-inhibbiting Pesticide' (e.g., 'Diazinon', 'Malathion') | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|---|-------------------------------|---|--------------------|-----------|
| SurveillanceActivityToxinsHazard | Toxins | The toxin of interest for the Surveillance Activity. It can be as specific as the protein subtype or as general as 'Toxin' (e.g., 'Clostridium botulinum toxin type C', 'Tetanus toxin') | Multiple selection | No |
| SurveillanceActivityPhysicalHazard | Physical Hazards | The type(s) of physical health hazard(s) of interest for the Surveillance Activity (e.g., 'Trap', 'Vehicle Collisions', 'Entanglement', 'Burning', 'Electrocution') | Multiple selection | No |
| SurveillanceActivityPhysiologicalHazard | Physiological Hazards | The type(s) of physiological health problems of interest for the Surveillance Activity (e.g., 'Hypocalcemia', 'Hyperkalemia', 'Amyloid A amyloidosis') | Multiple selection | No |
| SurveillanceActivityTaxaTargeted | Taxa Targeted | Taxa of interest for the Surveillance Activity. It is possible to select high taxonomy levels such as 'Mammalia', 'Chordata', 'Insecta', etc. to indicate that no particular species is targeted. The answer applies to previous Sources Records (Carcasses or Specimens from previous Surveillance Activities) and new Sources if both are included in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityPurpose | Surveillance Activity Purpose | Description of the general objectives and goals of the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|--------------------|-----------|
| SurveillanceActivityMethods | Surveillance Activity Methods | Description of the methods used to complete the Surveillance Activity (e.g., transect, citizen reports, ranger patrols, animal health team putbreak investigation, mosquito trapping, hunters reporting body condition, indigenous communities reporting findings in processed carcasses, etc.) | Multiple selection | Yes |
| SurveillanceActivityNewFieldVisits | Surveillance Activity New Field Visits | Answer to the question: 'Does the Surveillance Activity involve new Field Visits?' | Boolean | Yes |
| SurveillanceActivityNewFieldVisitCodeStructure | Surveillance Activity New Field Visit Code Structure | Description of the structure of the codes used to identify New Field Visits | String | Yes |
| SurveillanceActivityNewFieldVisitOtherAttributes | Surveillance Activity New Field Visit Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of New Field Activities not included in the default Field Visit properties of the data model?' | Boolean | Yes |
| SurveillanceActivityNewFieldVisitListDefinitionOtherAttributes | Surveillance Activity New Field Visit Definition Other Attributes | Description of other Field Visit attributes of interest not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityNewLocationsCodeStructure | Surveillance Activity Location Code Structure | Description of the structure of the codes used to identify Location | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityLocationsNumber | Surveillance Activity Locations Number | The number of Locations included in the Surveillance Activity | Integer | Yes |
| SurveillanceActivityLocationSpatialPolygons | Surveillance Activity Location Spatial Polygons | Answer to the question: 'Are the polygons of Locations entered in the database as a external file containing spatial data?' | Boolean | Yes |
| SurveillanceActivityEventCodeStructure | Surveillance Activity Event Code Structure | Description of the structure of the codes used to identify Events | String | Yes |
| SurveillanceActivityActiveCollection | Surveillance Activity Active Collection | Answer to the question:'Are Source Records obtained through an active collection strategy (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityCollectionCodeStructure | Surveillance Activity Collection Code Structure | Description of the structure of the codes used to identify Collections | String | Yes |
| SurveillanceActivityGroupSourcesIncluded | Surveillance Activity Includes Group Sources | Answer to the question: 'Does the Surveillance Activity include data of animals at a group-level (e.g., herd, pack, pen, animal in a cage, etc.) to be collected or from previous Surveillance Activities?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityAnimalSourcesIncluded | Surveillance Activity Includes Animal Sources | Answer to the question: 'Does the Surveillance Activity include data of individual animals to be collected or from previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcesIncluded | Surveillance Activity includes Environmental Sources | Answer to the question: 'Does the Surveillance Activity include data of Environmental Sources (e.g., sites where water is collected) to be collected or from previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityArthropodSourcesIncluded | Surveillance Activity Includes Arthropod Sources | Answer to the question: 'Does the Surveillance Activity include data of Arthropod Sources (e.g., sites where CO2 traps can be placed to collect mosquitoes) to be collected or from previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityPreviousSpecimensAnySourceType | Surveillance Activity Previous Specimens Any Source Type | Answer to the question: 'Does the Surveillance Activity include the use of Specimens of any type obtained under a previous Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewSpecimensAnySourceType | Surveillance Activity New Specimens Any Source Type | Answer to the question: 'Does the Surveillance Activity include obtaining new Specimens of any type?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|--------------------|-----------|
| SurveillanceActivityNewPooledSpecimens | Surveillance Activity New Pooled Specimens | Answer to the question: 'Does the Surveillance Activity involve the creation of new Pooled Specimens?' | Boolean | Yes |
| SurveillanceActivityNewPooledSpecimenCodeStructure | Surveillance Activity New Pooled Specimens Code Structure | Description of the structure of the codes used to identify newly created Pooled Specimens | String | Yes |
| SurveillanceActivityNewDiagnostics | Surveillance Activity New Diagnostics | Answer to the question: 'Does the Surveillance Activity involve new Diagnostics?' | Boolean | Yes |
| SurveillanceActivityNewDiagnosticsCodeStructure | Surveillance Activity New Diagnostics Code Structure | Description of the structure of the codes used to identify new Diagnostics | String | Yes |
| SurveillanceActivityNewDiagnosticProducts | Surveillance Activity New Diagnostic Products | Answer to the question: 'Does the Surveillance Activity involve the creation of new Diagnostic Products?' | Boolean | Yes |
| SurveillanceActivityLaboratoriesIncluded | Surveillance Activity Laboratories Included | Answer to the question: 'Are there any laboratories participating somehow in the Surveillance Activity' | Boolean | Yes |
| SurveillanceActivityLaboratories | Surveillance Activity Participating Laboratories | The laboratories participating in any manner in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityIACUCNeeded | Surveillance Activity IACUC Needed | Answer to the question: 'Is an IACUC needed to conduct the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityOrganizationProvidingIACUC | Surveillance Activity Organization Providing IACUC | The organization providing the IACUC approving the methodology of the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityIA
CUCCode | Surveillance Activity
IACUC Code | The code of the IACUC approving the methodology of the Surveillance Activity | String | Yes |
| SurveillanceActivityDataOwner | Surveillance Activity Data Owner | The person or organization that owns the Surveillance Activity data | String | Yes |
| SurveillanceActivityDataManager | Surveillance Activity Data Manager | The person responsible of the Surveillance Activity data | Single selection | Yes |
| SurveillanceActivityOtherSurveillanceActivityAssociated | Surveillance Activity Other Surveillance Activities or Datasets Associated | Answer to the question: 'Are there other Surveillance Activities or other datasets associated with the current Surveillance Activity ?' (e.g., if the current Surveillance Activity uses Specimens collected as part of other associated Surveillance Objective, or if the full set of events of a ranger patrol (beyond health events) belong to the patrol XXXX of the protected area Y') | Boolean | Yes |
| SurveillanceActivityOtherSurveillanceActivityAssociatedCode | Surveillance Activity Associated Surveillance Activities Codes | The Codes of other Surveillance Activities associated with the current Surveillance Activity | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------|-----------|
| SurveillanceActivityReasonOtherSurveillanceActivityAssociated | Reason other Surveillance Activities or Datasets Are Associated | Describe why other Surveillance Activities are associated with the current Surveillance Activity (e.g., the current Surveillance Activity uses Specimens collected as part of Surveillance Activity X, or the health Events are part of patrols conducted in protected Z') | String | Yes |
| SurveillanceActivityRelevantUrl | Surveillance Activity URLs | URLs of the Surveillance Activity, associated with the Surveillance Activity, or organizations leading the Surveillance Activity | String | No |
| SurveillanceActivityPublication | Surveillance Activity Publications | Publication references associated with the Surveillance Activity | String | No |
| SurveillanceActivityStartDate | Surveillance Activity Start Date | The date the Surveillance Activity officially started | Date | Yes |
| SurveillanceActivityEndDate | Surveillance Activity End Date | The date the Surveillance Activity is projected to end or officially ended | Date | No |

Surveillance Activity - Group Source

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| SurveillanceActivityTargetedSpecies | Group Source Species of Interest | Species included in the Group Sources of the Surveillance Activity. It is possible to select high taxonomy levels such as 'Mammalia', 'Chordata', 'Insecta', etc. to indicate that no particular species is targeted | Multiple selection | Yes |
| SurveillanceActivitySpeciesIdentificationMethod | Group Source Species Identification Method | The methodology used to identify the species of the Group Sources obtained in the field | String | Yes |
| SurveillanceActivitySpeciesIdentificationMethodReferences | Group Source Species Identification Method References | References supporting the methodology used to identify the species of Group Sources obtained in the field | String | No |
| SurveillanceActivityTargetedHazardType | Group Source Targeted Hazard Type | The types of hazards targeted during the Surveillance Activity in Group Sources | Multiple selection | Yes |
| SurveillanceActivityTargetedHazardName | Group Source Targeted Hazard Name | The names of the hazards targeted during the Surveillance Activity in Group Sources | Multiple selection | Yes |
| SurveillanceActivityTargetedHazardBySpecies | Group Source Targeted Hazard By Species | The names of the hazards targeted during the Surveillance Activity in Group Sources by Species | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityFieldGroupSourceIncluded | Group Source Records From the Field | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from Groups Sources in the field?' (does not include stored Group Sources (a group of carcasses stored as a Group Source) from previous Projects or Surveillance Activities only) | Boolean | Yes |
| SurveillanceActivityFieldGroupSourceCodeStructure | New Group Source Code Structure | Explain the nomenclature of the new Group Source Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, and then the number is the sequential number of the Group Source') | String | Yes |
| SurveillanceActivityFieldObservedOnlyGroupSource | Group Source Records From Observed-Only Groups | Answer to the question:'Does the Surveillance Activity involve Group Source Records from the field but not Carcasses or Specimens?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityCaptureFieldGroupSource | Group Source Records From Captured Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from Groups captured or restrained in the field? (not stored carcasses from previous projects or surveillance activities or observations only)' | Boolean | Yes |
| SurveillanceActivityOneTimeCaptureFieldGroupSource | Group Source Records From Non-marked Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from non-marked Groups captured or restrained in the field?' | Boolean | Yes |
| SurveillanceActivityReleaseCaptureFieldGroupSource | Group Source Records From Non-marked Released Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from originally captive Groups that were then release to the field and then recaptured over time as a group?' | Boolean | Yes |
| SurveillanceActivityMarkReleaseRecaptureFieldGroupSource | Group Source Records From Previously Marked and then Released Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from originally captive Groups that were marked then release to the field and then recaptured over time as a group?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityReleaseCaptureMarkRecaptureFieldGroupSource | Group Source Records From Released Captured Marked and Recaptured Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from originally captive Groups that were released to the field and then captured or restrained, marked, and recaptured over time as a group?' | Boolean | Yes |
| SurveillanceActivityCaptureMarkRecaptureFieldGroupSource | Group Source Records From Captured Marked and Recaptured Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from Groups in the field that are captured or restrained, marked, and recaptured over time as a group?' | Boolean | Yes |
| SurveillanceActivityCaptiveFieldGroupSources | Group Soucce Records From Captive Groups | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from Groups that are captive (hunted, farm, household, zoo, etc)?' | Boolean | Yes |
| SurveillanceActivityCaptivityCategoryBySpecies | Group Source Captivity Status Per Species | Description of the captivity status of the Group Sources included in the Surveillance Activity per species (e.g., 'groups of civets were obtained from farms. The group of bats from markets) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityCaptiveFacilityBySpecies | Group Source Captivity Facility Per Species | Description of the captivity facility of the captive Group Sources included in the Surveillance Activity per species (e.g., 'Groups of civets were obtained from farm A, B, C') | String | Yes |
| SurveillanceActivityLocationCaptiveFacilityBySpecies | Group Source Location of Captivity Facilities Per Species | Description of the location of the captivity facilities of the captive Group Sources included in the Surveillance Activity per species (e.g., 'farm A where we collected groups of civets and groups of parrots is located in town X, Province Y') | String | Yes |
| SurveillanceActivitySourceInclusionCriteriaAny | Any Group Source Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific Group Sources of any species? (e.g., Groups with certain age distribution or a specific population)' | Boolean | Yes |
| SurveillanceActivitySourceInclusionCriteriaBySpecies | Group Source Inclusion Criteria By Species | The specific criteria for the inclusion of Groups Sources of the species of interest, if any, by species | String | Yes |
| SurveillanceActivitySourceExclusionCriteriaAny | Any Group Source Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific Group Sources of any species? (e.g., Group Sources with certain age distribution or a specific population)' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivitySourceExclusionCriteriaBySpecies | Group Source Exclusion Criteria By Species | The specific criteria for the exclusion of Group Sources of the species of interest, if any, by species | String | Yes |
| SurveillanceActivityGroupSourceMembersInclusionCriteriaAny | Any Inclusion Criteria Group Source Members | Answer to the question: 'Is there any criteria to include specific animals in Group Sources besides the species? (e.g., Groups contain animals of certain age or health condition only)' | Boolean | Yes |
| SurveillanceActivityGroupSourceMembersInclusionCriteriaByGroup | Group Source Members Inclusion Criteria By Group | The specific criteria for the inclusion of animals in Group Sources of the species of interest, if any, by group | String | Yes |
| SurveillanceActivityGroupSourceMembersExclusionCriteriaAny | Any Group Source Members Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific animals from Group Sources besides the species? (e.g., Groups cannot contain animals of certain age or health condition)' | Boolean | Yes |
| SurveillanceActivityGroupSourceMembersExclusionCriteriaByGroup | Group Source Members Exclusion Criteria By Group | The specific criteria for the exclusion of animals from Group Sources of the species of interest, if any, by group | String | Yes |
| SurveillanceActivitySourceFollowedOverTime | Group Source Followed Over Time | Answer to the question: 'Are Group Sources followed during the Surveillance Activity and Source Records of these Groups are obtained over time?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivitySourceFollowedOverTimeFrequency | Group Source Followed Over Time Frequency | Description of the frequency Group Sources are observed, examined, etc. | String | Yes |
| SurveillanceActivitySourceIdentification | Group Source Identification | Answer to the question: 'Are Group Sources identified during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivitySourceIdentificationMethodByGroup | Group Source Identification Method | Description how Group Sources are identified during the Surveillance Activity | String | Yes |
| SurveillanceActivitySourceIdentificationMethodReferencesByGroup | Group Source Identification Method References | References associated with identification method of Group Sources identified during the Surveillance Activity | String | No |
| SurveillanceActivityIdentifiedSourcesInPreviousSurveillanceActivity | Group Source Records from Groups Identified in Previous Surveillance Activities | Answer to the question:'Does the Surveillance Activity involve obtaining Group Source Records from Group Sources that were identified in previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityIdentifiedSourceOriginProjectCode | Project Code Group Sources Identified in Previous Surveillance Activities | The Code of the Project under which the identified Group Sources were identified | String | Yes |
| SurveillanceActivityIdentifiedSourcePreviousSurveillanceActivityCode | Surveillance Activity Code Group Sources Identified in Previous Surveillance Activities | The Code of the Surveillance Activity under which the identified Group Sources were identified | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityGroupSourceRecordCodeStructure | Group Source Record Code Structure | Explain the nomenclature of the Codes of Group Source Record obtained as part of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Group Source in the Surveillance Activity code, and the number is the sequential number of the Group Source Record') | String | Yes |
| SurveillanceActivityGroupSourceRecordHealthy | Group Sources Include Healthy Animals | Answer to the question: Can healthy animals be part of the Group Sources? | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordSick | Group Sources Include Sick Animals | Answer to the question: Can sick animals be part of the Group Sources? | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordSickDescription | Description Group Sources Including Sick Animals | Description how Group Sources can contain sick individuals, by species | String | Yes |
| SurveillanceActivityGroupSourceRecordInjured | Group Sources Include Injured Animals | Answer to the question: Can injured animals be part of the Group Sources? | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordInjuredDescription | Description Group Sources Including Injured Animals | Description how Group Sources can contain injured individuals, by species | String | Yes |
| SurveillanceActivityGroupSourceRecordDead | Group Sources Include Dead Animals | Answer to the question: Can dead animals be part of the Group Sources? | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityGroupSourceRecordDeadDescription | Description Group Sources Including Dead Animals | Description how Group Sources can contain dead individuals, by species | String | Yes |
| SurveillanceActivityGroupSourceRecordUnknown | Group Sources Include Animals Unknown Health Status | Answer to the question: Can animals of unknown field health status be part of the Group Sources? | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordUnknownDescription | Description Group Sources Including Unknown Health Status Animals | Description how Group Sources can contain individuals of unknown health status, by species | String | Yes |
| SurveillanceActivityGroupSourceRecordInclusionCriteriaAny | Any Group Source Record Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific Group Source Records?' | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordInclusionCriteria | Group Source Record Inclusion Criteria | The specific criteria for the inclusion of Group Source Records, if any | String | Yes |
| SurveillanceActivityGroupSourceRecordExclusionCriteriaAny | Any Group Source Record Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific Group Source Records?' | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordExclusionCriteria | Group Source Record Exclusion Criteria | The specific criteria for the exclusion of Group Source Records, if any | String | Yes |
| SurveillanceActivityGroupSourceRecordNumberBySpeciesCaptivity | Number Group Source Records Per Species Captivity | Number of Group Source Records from per species and captivity category | String | Yes |
| SurveillanceActivityGroupSourceRecordClustering | Group Source Records Clustering | Answer to the question: 'Are Group Source Records clustered in units smaller than the Event?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityGroupSourceRecordClusteringDescription | Group Source Records Cluster Description | Description of Group Source Records cluster units smaller than Event | String | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnostic | Group Source Diagnostic | Answer to the question: 'Are Group Sources used to conduct a Diagnostic during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticProtocols | Group Source Diagnostic Protocols | Protocols of the new Diagnostic(s) conducted in Group Sources | String | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticProtocolsReferences | Group Source Diagnostic Protocol References | References associated with the protocols of Diagnostics conducted in Group Sources | String | No |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticOutput | Group Source Diagnostic Output | Description of the output of the Diagnostics conducted in Group Sources (e.g., a color band, a sequence, a cultivated plate) | String | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticDiagnosticProducts | Group Source Diagnostic Products | Answer to the question: 'Do any of the Diagnostics conducted in Group Sources generate products that are stored?' | Boolean | Yes |
| SurveillanceActivityGroupSourceSpecimens | Group Source Specimens | Answer to the question: 'Are Group Source Specimens included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldGroupSourceSpecimens | Field Group Source Specimens | Answer to the question: 'Are Specimens from Group Sources collected from the field during the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|--------------------|-----------|
| SurveillanceActivityFieldGroupSourceSpecimenTypes | Field Group Source Specimen Types | The type of Group Source Specimens collected in the field included in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityFieldGroupSourceSpecimenCollectionMethod | Field Group Source Specimen Collection Method | Description of the methods used to obtain Specimens in the field from Groups Sources during the Surveillance Activity | String | Yes |
| SurveillanceActivityFieldGroupSourceSpecimenCollectionMethodReferences | Field Group Source Specimen Collection Method References | References associated with the methods used to obtain Specimens in the field from Groups Sources during the Surveillance Activity | String | No |
| SurveillanceActivityFieldGroupSourceSpecimenFieldStorage | Field Group Source Specimen Field Storage | Method to store the Group Source Specimens collected in the field while in the field during the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityNewSpecimenCodeStructure | Field Group Source Specimen Code Structure | Explain the nomenclature of the Codes of Group Source Specimens obtained as part of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Group Source in the Surveillance Activity code, and the number is the sequential number of the Specimen') | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityNewSpecimenInclusionCriteriaByTypeAny | Any New Field Group Source Specimen Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific new Group Source Specimens obtained during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewSpecimenInclusionCriteriaByType | New Field Group Source Specimen Inclusion Criteria | The specific criteria for the inclusion of new Group Source Specimens obtained during the Surveillance Activity, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNewSpecimenExclusionCriteriaByTypeAny | Any New Field Group Source Specimen Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific new Group Source Specimens obtained during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewSpecimenExclusionCriteriaByType | New Field Group Source Specimen Exclusion Criteria | The specific criteria for the exclusion of new Group Source Specimens obtained during the Surveillance Activity, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNewSpecimenLabStorage | New Field Specimen Facility Storage | Method to store new Group Source Specimens generated during the Surveillance Activity in a facility | Multiple selection | Yes |
| SurveillanceActivityNumberNewGroupSourceSpecimensKnown | Number Field Group Source Specimens Known | Answer to the question: 'Is the number of Specimens from Group Sources to be collected in the field as part of the Surveillance Activity known a priori?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityNumberNewGroupSourceSpecimensByTypeSpecies | Group Source Number Field Specimens By Type Species | The number of Specimens from Group Sources to be collected in the field as part of the Surveillance Activity by type and species | String | Yes |
| SurveillanceActivityStoredGroupSourceSpecimens | Stored Group Source Specimens | Answer to the question: 'Are stored Group Sources Specimens included the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityStoredGroupSourceSpecimenTypes | Stored Group Source Specimen Types | The type of stored Group Source Specimens included in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredGroupSourceSpecimensProjectOrigin | Stored Specimens Project Origin Code | The Code of the Project during which the stored Group Source Specimens included in the current Surveillance Activity were collected | Multiple selection | Yes |
| SurveillanceActivityStoredGroupSourceSpecimensSurveillanceActivity | Stored Specimens Previous Surveillance Activity Code | The previous Surveillance Activity Codes of the stored Group Source Specimens included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredGroupSourceSpecimenInclusionCriteriaByTypeAny | Any Stored Group Source Specimen Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific stored Group Source Specimens?' | Boolean | Yes |
| SurveillanceActivityStoredGroupSourceSpecimenInclusionCriteriaByType | Stored Group Source Record Inclusion Criteria | The specific criteria for the inclusion of stored Group Source Specimens, if any, by Specimen Type | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityStoredGroupSourceSpecimenExclusionCriteriaByTypeAny | Any Stored Group Source Specimen Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific stored Group Source Specimens?' | Boolean | Yes |
| SurveillanceActivityStoredGroupSourceSpecimenExclusionCriteriaByType | Stored Group Source Record Exclusion Criteria | The specific criteria for the exclusion of stored Group Source Specimens, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNumberStoredGroupSourceSpecimensKnown | Number Stored Group Source Specimens Known | Answer to the question: 'Is the number of stored Specimens from Group Sources to be included in the Surveillance Activity known a priori?' | Boolean | Yes |
| SurveillanceActivityNumberStoredGroupSourceSpecimensByTypeSpecies | Number Stored Group Source Specimens By Type Species | The number of stored Specimens from Group Sources to be included in the Surveillance Activity by type and species | String | Yes |
| SurveillanceActivityGroupSourceSpecimensIncludesParasitesVectors | Group Source Specimens Includes Parasites or Vectors | Answer to the question: 'Are parasites or vectors collected from Group Sources included as Specimens in the current Surveillance Activity?. If the parasites are collected fomr the environment, then the parasite or vector are 'Arthropod Source' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityGroupSourceSpecimenPooling | Group Source Specimen Pooling | Answer to the question: 'Are Group Source Specimens included in the current Surveillance Activity pooled with Specimens from any type of Source?' (for a definition of 'pooling' in the database see the online database manual) | Boolean | Yes |
| SurveillanceActivityGroupSourceSpecimenPoolingStrategy | Group Source Specimen Pooling Strategy | Explanation of the method to pool Group Source Specimens used in the current Surveillance Activity (for a definition of 'pooling' in the database see the online database manual) | String | Yes |
| SurveillanceActivitySpecimenNewDiagnostics | Surveillance Activity Group Source Diagnostics | Answer to the question: 'Are Diagnostics conducted with Group Source Specimens (new or stored) as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivitySpecimenNewDiagnosticsProtocolByHazardSpecimenTypeSpecies | Group Source Protocol Diagnostics | Description of the Diagnostic protocols conducted with the Group Source Specimens included in the Surveillance Activity per hazard, Specimen type, and host species | String | Yes |
| SurveillanceActivitySpecimenNewDiagnosticsProtocolByHazardSpecimenTypeSpeciesReferences | Group Source Protocol Diagnostics References | References associated with the Diagnostic protocols conducted with the Group Source Specimens included in the Surveillance Activity | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivitySpecimenNewDiagnosesProtocolsOutputs | Group Source Diagnostic Outputs | Description of the output of the Diagnostics conducted using Group Source Specimens during the Surveillance Activity | String | Yes |
| SurveillanceActivitySpecimenNewDiagnosesProtocolsProducts | Group Source Diagnostic Products | Answer to the question: 'Are there Products created as a result of the Diagnostics conducted in Group Source Specimens included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldVisitList | Field Visit List Group Source Records | A list with the Field Visits where Group Source Records are obtained from in the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitOtherAttributes | Field Visit Group Source Records Other Attributes | Answer to the question: 'Are other properties of Field Visits where Group Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |
| SurveillanceActivityFieldVisitListDefinitionOtherAttributes | Field Visit Group Source Records Definition Other Attributes | Description of the other attributes of Field Visits where Group Source Records are obtained during the current Surveillance Activity tracked. Provide a list with the name of the attributes and their definition | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityFieldVisitNumberKnown | Number Field Visits Known | Answer to the question: 'Is the total number of Field Visits during to obtain Group Source Records the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumber | Number Field Visits | The number of planned Field Visits to obtain Group Source Records during the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitNumberLocationsKnown | Number Locations Surveyed Per Field Visit Known | Answer to the question: 'Is the total number of Locations surveyed per Field Visit where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberLocations | Number Locations Per Field Visit | The number of planned Locations surveyed per Field Visit where Group Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitNumberEventsKnown | Number Events Per Field Visit Known | Answer to the question: 'Is the total number of Events per Field Visit where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberEvents | Number Events Per Field Visit | The number of planned Events per Field Visit where Group Source Records are obtained during the current Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityFieldVisitNumberCollectionKnown | Number Collections Per Field Visit Known | Answer to the question: 'Is the total number of Collections per Field Visit where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberCollection | Number Collections Per Field Visit | The number of planned Collections per Field Visit where Group Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitNumberGroupSourceRecordsKnown | Number Group Source Records Per Field Visit Known | Answer to the question: 'Is the total number of Group Source Records per Field Visit for the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberGroupSourceRecords | Number Group Source Records Per Field Visit | The number of Group Sources to obtain Records per Field Visit of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationUnitofInterest | Location Unit of Interest | Answer to the question: 'Are the Locations where new Group Source Records are obtained a unit of interest in the Surveillance Activity (e.g., markets where Groups of Group Sources are caged)?' | Boolean | Yes |
| SurveillanceActivityLocationDefinition | Location Definition | Description of what the Locations of origin of Group Source Records are (e.g., a parcel, an zone of a proteced area, a city, etc.) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|--------------------|-----------|
| SurveillanceActivityLocationPreviousSurveillanceActivities | Location Previous Surveillance Activities | Answer to the question: 'Are there Locations of origin of Group Source Records in the current Surveillance Activity that have been included in previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityLocationPreviousProjectCodes | Location Previous Project Codes | The Code of the Projects also containing Locations included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityLocationPreviousSurveillanceActivityCodes | Location Previous Surveillance Activity Code | The Code of the Surveillance Activities also containing Locations included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityLocationList | Location List Group Source Records | A list with the Location names or codes where Group Source Records are obtained from in the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationSpatialFileProvided | Location Group Source Records Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Locations where Group Source Records are obtained in the current Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityLocationPolygonProjection | Location Group Source Records Polygon Projection | The projection of the spatial data in the provided file with the Locations where Group Source Records are obtained during the current Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityLocationOtherAttributes | Location Group Source Records Other Attributes | Answer to the question: 'Are other properties of Locations where Group Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |
| SurveillanceActivityLocationListDefinitionOtherAttributes | Location Group Source Records Definition Other Attributes | Description of the other attributes of Locations where Group Source Records are obtained during the current Surveillance Activity tracked. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityLocationActiveCollection | Active Collection of Group Source Records at Locations | Answer to the question:'Are Group Source Records of any species obtained through an active collection strategy in the Locations (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityLocationNumberPlannedSurveysKnown | Number Surveys Per Location Known | Answer to the question: 'Is the total number of surveys to the Locations where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityLocationNumberPlannedSurveys | Number Surveys Per Location | The number of planned surveys per Location where Group Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberEventsKnown | Number Events Per Location Known | Answer to the question: 'Is the total number of Events per Location where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberEvents | Number Events Per Location | The number of planned Events per Location where Group Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberCollectionKnown | Number Collections Per Location Known | Answer to the question: 'Is the total number of Collections per Location where Group Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberCollection | Number Collections Per Location | The number of planned Collections per Location where Group Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberFieldGroupSourceRecordsKnown | Number Group Source Records Per Location Known | Answer to the question: 'Is the total number of Group Source Records per Location for the current Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityLocationNumberFieldGroupSourceRecords | Number Group Source Records Per Location | The number of Group Sources to obtain Records from at each Location of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberFieldGroupSourceRecordsPerSurveyKnown | Number Group Source Records Per Location Per Survey Known | Answer to the question: 'Is the total number of Group Source Records per survey to each Location of the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberFieldGroupSourceRecordsPerSurvey | Number Group Source Records Per Location Per Survey | The number of Group Source Records per survey to each Location of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationClustering | Location Clustering | Answer to the question: 'Are the Locations of the current Surveillance Activity spatially or temporally clustered in units smaller than the Field Visit?' | Boolean | Yes |
| SurveillanceActivityEventUnitofInterest | Event Unit of Interest | Answer to the question: 'Are the Events where new Group Source Records are obtained a unit of interest in the Surveillance Activity (e.g., the actual spatiotemporal coordinate is of interest)?' | Boolean | Yes |
| SurveillanceActivityNewGroupSourceEventDefinition | Event Definition | Description of what the Events where Group Source Records are obtained (e.g., a farm, a pen) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--------------------------------------|--|---------|-----------|
| SurveillanceActivityEventIncludesHealthyGroupSources | Event Includes Healthy Group Sources | Answer to the question: Are healthy Group Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityEventIncludesSickGroupSources | Event Includes Sick Group Sources | Answer to the question: Are sick Group Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityEventIncludesInjuredGroupSources | Event Includes Injured Group Sources | Answer to the question: Are injured Group Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityEventIncludesDeadGroupSources | Event Includes Dead Group Sources | Answer to the question: Are dead Group Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityNewGroupSourceEventIncludesManyGroupSources | Event Includes Several Group Sources | Answer to the question: 'Do Events where Group Source Records are obtained from contain records of other Group Sources?' | Boolean | Yes |
| SurveillanceActivityNewGroupSourceEventIncludesAnimalSources | Event Includes Animal Sources | Answer to the question: 'Do Events where Group Source Records are obtained from contain records of Animal Sources?' | Boolean | Yes |
| SurveillanceActivityNewGroupSourceEventIncludeEnvironmentalSources | Event Includes Environmental Sources | Answer to the question: 'Do Events where new Group Source Records are obtained from contain records of Environmental Sources?' | Boolean | Yes |
| SurveillanceActivityNewGroupSourceEventIncludeArthropodSources | Event Includes Arthropod Sources | Answer to the question: 'Do Events where new Group Source Records are obtained from contain records of Arthropod Sources?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|-----------------------------------|---|---------|-----------|
| SurveillanceActivityEventOtherAttributes | Event Other Attributes | Answer to the question: 'Are other properties of Events where Group Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |
| SurveillanceActivityEventListDefinitionOtherAttributes | Event Definition Other Attributes | Description of the other attributes of Events where Group Source Records are obtained during the current Surveillance Activity tracked.
Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityEventSiteSeveralSurveys | Several Surveys Per Event Site | Answer to the question: 'Are there multiple Events at the same sites where Group Source Records are obtained during the current Surveillance Activity? (Several Events over time for the same unit. For example, monthly Events in a cave)' | Boolean | Yes |
| SurveillanceActivityEventNumberPlannedSurveysKnown | Events Per Site Known | Answer to the question: 'Is the number of Events to obtain Group Source Records at the same site during the Surveillance Activity known'? | Boolean | Yes |
| SurveillanceActivityEventNumberPlannedSurveys | Number Events Per Site | Description of the number of Events at the sites where Group Source Records are obtained from during the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityEventNumberCollectionKnown | Collections Per Event Known | Answer to the question: 'Is the number of Collections at Events to obtain Group Source Records during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityEventNumberCollection | Number Collections Per Event | Description of the number of Collection at Events where Group Source Records are obtained from during the Surveillance Activity | String | Yes |
| SurveillanceActivityEventNumberFieldGroupSourceRecordsKnown | Number Group Source Records Per Event Known | Answer to the question: 'Is the number of Group Source Records per Event of the the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityEventNumberFieldGroupSourceRecords | Number Group Source Records Per Event | Description of the number of Group Source Records at Events of the Surveillance Activity | String | Yes |
| SurveillanceActivityEventClustering | Events Clustering | Answer to the question: 'Are the Events of the current Surveillance Activity spatially or temporally clustered in units smaller than the Field Visit?' | Boolean | Yes |
| SurveillanceActivityCollectionPassive | Group Source Passive Collection | Answer to the question:'Are Group Source Records of any species obtained through a passive collection strategy (e.g., citizen reports, information from news outlets)?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityCollectionActive | Group Source Active Collection | Answer to the question:'Are Group Source Records of any species obtained through an active collection strategy (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityCollectionMethodsBySpecies | Group Source Collection Methods By Species | Description of the Collection methods used to obtain Group Source Records by species (e.g., visit to a bat roost on a monthly basis to obtain guano) | String | Yes |
| SurveillanceActivityCollectionMethodActiveExpectedEffortBySpecies | Group Source Active Collection Methods Expected Effort | Expected effort of the Active Collection Methods to obtain Group Source Records actively by species (e.g., two mist nets per trapping session placed for X hours) | String | Yes |
| SurveillanceActivityFieldGroupSourceCollectionMethodReferences | Group Source Collection Method References | Name the references supporting the methods used to collect Group Sources | String | No |
| SurveillanceActivityCollectionOtherAttributes | Collection Other Attributes | Answer to the question: 'Are other properties of Collections to obtain Group Source Records during the current Surveillance Activity that are not tracked in the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityCollectionListDefinitionOtherAttributes | Collection Definition Other Attributes | Description of the other attributes of Collections to obtain Group Source Records during the current Surveillance Activity that are not tracked in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityCollectionManyGroupSourcesRecords | Collection Includes Several Group Sources | Answer to the question: 'Do Collections to obtain Group Source Records contain records of other Group Sources?' | Boolean | Yes |
| SurveillanceActivityCollectionRecordsOtherSourceTypes | Collection Other Source Types | Answer to the question: 'Can a single Collection involve other Source types besides Group Source Records? (e.g. A Group Source Record and an Environmental Source Record)' | Boolean | Yes |
| SurveillanceActivityCollectionNumberFieldGroupSourceRecordsKnown | Number Group Source Records Per Collection Known | Answer to the question: 'Is the number of Group Source Records per Collection of the the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityCollectionNumberFieldGroupSourceRecords | Number Group Source Records Per Collection | Description of the number of Group Source Records per Collection of the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------|-----------|
| GroupSourceRecordPositiveDiagnosticByDiagnosticMethod | Criteria Diagnostic in Group Source is Positive | Criteria to establish that each Diagnostic test applied to a Group Source Record is positive (Diagnostic case definition for diagnostics applied to Group Source Records) | String | Yes |
| GroupSourceRecordPositiveDiagnosticByDiagnosticMethodReferences | Criteria Positive Diagnostic in Group Source Record References | Provide references supporting the criteria to establish that each Diagnostic test applied to a Group Source Record is positive | String | No |
| GroupSourceSpecimenPositiveDiagnosticByMethod | Criteria Diagnostics in Specimen is Positive | Criteria to establish that each Diagnostic test applied to a Group Source Specimen is positive (Diagnostic case definition for diagnostics applied to Group Source Specimens) | String | Yes |
| GroupSourceSpecimenPositiveDiagnosticByMethodReferences | Criteria Positive Diagnostic in Group Source Specimen References | References associated with the criteria to establish that each Diagnostic test applied to an Group Source Specimen is positive | String | No |
| GroupSourceSpecimenPositiveCasePerHazard | Group Source Specimen Criteria Positive Case | Criteria to establish that a Group Source Specimen is positive for each specific hazard targeted in the Surveillance Activity (positive Specimen case definition) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|------------------|-----------|
| GroupSourceSpecimenPositiveCasePerHazardReferences | Criteria Positive Group Source Specimen References | References associated with the criteria to establish that an Group Source Specimen is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| GroupSourceRecordPositiveCasePerHazard | Group Source Record Criteria Positive Case | Explain the criteria to establish that an Group Source Record is positive for each specific hazard targeted in the Surveillance Activity (positive Group Source Record case definition) | String | Yes |
| GroupSourceRecordPositiveCasePerHazardReferences | Criteria Positive Group Source Record References | References associated with the criteria to establish that an Group Source Record is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| GroupSourceRecordDiagnosticInterpretation | Group Source Record Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Group Source Records interpreted as part of the Surveillance Activity?' | boolean | Yes |
| GroupSourceRecordDiagnosticInterpretationBy | Group Source Record Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostics conducted in Group Source Records | Single selection | No |
| GroupSourceSpecimenDiagnosticInterpretation | Group Source Specimen Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Group Source Specimens Interpreted as part of the Surveillance Activity?' | boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|------------------|-----------|
| GroupSourceSpecimenDiagnosticInterpretationBy | Group Source Specimen Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostic conducted in Group Source Specimens | Single selection | No |
| GroupSourceSpecimenInterpretation | Group Source Specimen Interpretation | Answer to the question: 'Does the presence of targeted hazards in Group Source Specimens receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| GroupSourceSpecimenInterpretationBy | Group Source Specimen Interpretation by | The individual providing the Interpretation of targeted hazards in Group Source Specimens | Single selection | No |
| GroupSourceRecordInterpretation | Group Source Record Interpretation | Answer to the question: 'Does the presence of targeted hazards in Group Source Records receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| GroupSourceRecordInterpretationBy | Surveillance Activity Group Source Record Interpretation by | The individual providing the Interpretation of the Group Source Records with respect to the presence of targeted hazards | Single selection | No |
| SurveillanceActivityNewAnimalSourcesfromGroupSource | New Animal Sources from Group Sources | Answer to the question: 'Are New Animal Sources created from Group Sources during the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|--------|-----------|
| SurveillanceActivityNewAnimalSourcesfromGroupSourceReason | New Animal Sources from Group Sources Reason | Reason new Animal Sources are created from Group Sources during the Surveillance Activity' (e.g., an individual from a Group Source is found dead and the carcass is collected for necropsy) | String | Yes |
| SurveillanceActivityNewAnimalSourcesfromGroupSourceSurveillanceActivityGroupSource | Animal Source Original Group Source Surveillance Activity Code | The Surveillance Activity Code of the original Group Source generating Animal Sources | String | No |
| SurveillanceActivityNewAnimalSourcesfromGroupSourceProjectGroupSource | Animal Source Original Group Source Project Code | The Project Code of origin of the Group Source generating Animal Sources | String | No |

Surveillance Activity - Group Source Records Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityGroupSourceRecordClustering | Surveillance Activity Group Source Record Clustering | Answer to the question:'Are Group Source Records of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordSpatialClustering | Surveillance Activity Group Source Record Spatial Clustering | Answer to the question:'Are Group Source Records of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Group Sources represent herds and herds are clustered by pen | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordSpatialNestedClustering | Surveillance Activity Group Source Record Spatial Nested Clustering | Answer to the question:'Are Group Source Record of the Surveillance Activity spatially clustered in nested levels?' For example, Group Sources are herds and herds are clustered by pen | Boolean | Yes |
| SurveillanceActivityGroupSourceSpatialNumberLevelsNestedClusters | Surveillance Activity Group Source Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels grouping Group Source Records | Integer | Yes |
| SurveillanceActivityGroupSourceSpatialNestedClusterLevelsRepresent | Surveillance Activity Group Source Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster grouping Group Source Records is.
For example, Level 1 are areas Level 2 are grid cells within areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityGroupSourceSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Group Source Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters grouping Group Source Records. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |
| SurveillanceActivityGroupSourceRecordsPerSpatialNestedClusterCategoryKnown | Surveillance Activity Group Source Records Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Group Source Records per each category within each spatial nested cluster grouping Group Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordsPerSpatialNestedClusterCategory | Surveillance Activity Group Source Records Per Spatial Nested Cluster Category | Description of the Group Source Records per each category of nested spatial clusters grouping Group Source Records. For example, 3 Group Sources Record per grid cell and the total number of grid cells is ten for a total of 30 Group Source Records | String | Yes |
| SurveillanceActivityGroupSourceSpatialNestedClustersOtherAttributes | Surveillance Activity Group Source Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters grouping Group Source Records contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityGroupSourceSpatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Group Source Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters grouping Group Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityGroupSourceRecordSpatialNonNestedClustering | Surveillance Activity Group Source Record Spatial Non Nested Clustering | Answer to the question:'Are Group Source Records of the Surveillance Activity spatially clustered in non-nested groups?' For example, Group Sources Records are grouped by cities and also by zip codes | Boolean | Yes |
| SurveillanceActivityGroupSourceSpatialNumberNonNestedClusters | Surveillance Activity Group Source Spatial Number Non Nested Clustering | The number of non-nested spatial clusters grouping Group Sources Records | Integer | Yes |
| SurveillanceActivityGroupSourceSpatialNonNestedClusterRepresent | Surveillance Activity Group Source Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster grouping Group Sources Records is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |
| SurveillanceActivityGroupSourceSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Group Source Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster grouping Group Source Records. For example, cluster 1 contains 20 cells; cluster 2 contains 2 fenological areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityGroupSourceRecordsPerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Group Source Records Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Group Source Records per each category of each spatial non-nested cluster grouping Group Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordsPerSpatialNonNestedClusterCategory | Surveillance Activity Group Source Records Per Spatial Non Nested Cluster Category | The number of Group Source Records per each category of each spatial non-nested cluster that are grouping Group Source Records | String | Yes |
| SurveillanceActivityGroupSourceSpatialNonNestedClustersOtherAttributes | Surveillance Activity Group Source Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters grouping Group Sources Records contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityGroupSourceSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Group Source Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters grouping Group Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityGroupSourceSpatialClustersFileProvided | Surveillance Activity Group Source Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters grouping Group Source Records and their corresponding categories provided in a file?' | Boolean | Yes |
| SurveillanceActivityGroupSourceSpatialClustersSpatialProjection | Surveillance Activity Group Source Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters grouping Group Source Records provided in the file | String | No |
| SurveillanceActivityGroupSourceRecordTemporalClustering | Surveillance Activity Group Source Record Temporal Clustering | Answer to the question:'Are Group Source Records of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Group Sources Records are clustered by decade and month over the years | Boolean | Yes |
| SurveillanceActivityGroupSourceRecordTemporalNestedClustering | Surveillance Activity Group Source Record Temporal Nested Clustering | Answer to the question:'Are Group Source Record of the Surveillance Activity temporally clustered in nested levels?' For example, Group Source Records are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityGroupSourceNumberTemporalNestedClustersLevels | Surveillance Activity Group Source Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters grouping Group Source Records | Integer | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityGroupSourceTemporalNestedClusterLevelsRepresent | Surveillance Activity Group Source Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters grouping Group Source Records is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |
| SurveillanceActivityGroupSourceTemporalNumberCategoriesPerNestedClusterLevel | Surveillance Activity Group Source Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters grouping Group Source Records. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |
| SurveillanceActivityGroupSourceRecordsPerTemporalNestedClusterCategoryKnown | Surveillance Activity Group Source Records Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Group Source Records per each category of each temporal cluster level grouping Group Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityGroupSourcePerTemporalNestedClusterCategory | Surveillance Activity Group Source per Temporal Nested Cluster Category | Description of the number of Group Sources Records per each category of each temporal cluster level grouping Group Source Records. For example, 3 Group Source Records for season 1 that include 3 Group Sources during each of the 3 months for a total of 9 Group Sources Records per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |
| SurveillanceActivityGroupSourceTemporalNestedClustersOtherAttributes | Surveillance Activity Group Source Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters grouping Group Source Records contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityGroupSourceTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Group Source Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters grouping Group Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityGroupSourceRecordTemporalNonNestedClustering | Surveillance Activity Group Source Record Temporal NonNested Clustering | Answer to the question:'Are Group Source Records of the Surveillance Activity temporally clustered in non-nested groups?' For example, Group Source Records are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityGroupSourceNumberTemporalNonNestedClusters | Surveillance Activity Group Source Number Temporal NonNested Clusters | The number of temporal non-nested clusters grouping Group Source Records | Integer | Yes |
| SurveillanceActivityGroupSourceTemporalNonNestedClustersRepresent | Surveillance Activity Group Source Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster grouping Group Source Records is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |
| SurveillanceActivityGroupSourceTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Group Source Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters grouping Group Source Records. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityGroupSourcePerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Group Source per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Group Source Records per each category within each temporal non-nested cluster grouping Group Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityGroupSourcePerTemporalNonNestedClusterCategory | Surveillance Activity Group Source per Temporal NonNested Cluster Category | Description of the Group Source Records per each category of the non-nested temporal clusters grouping Group Source Records. For example, 1 Group Source Record for each date of the year and 365 Group Source Records per year of the decade | String | No |
| SurveillanceActivityGroupSourceTemporalNonNestedClustersOtherAttributes | Surveillance Activity Group Source Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters grouping Group Source Records contain other properties not included in the data model?' | Boolean | Yes |
| SurveillanceActivityGroupSourceTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Group Source Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters grouping Group Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityGroupSourceTemporalClustersFileProvided | Surveillance Activity Group Source Temporal Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters grouping Group Source Records and their corresponding categories provided in a file?' | Boolean | Yes |

Surveillance Activity - Animal Source

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityTargetedSpecies | Animal Source Species of Interest | Species included in the Surveillance Activity as Animal Sources. It is possible to select high taxonomy levels such as 'Mammalia', 'Chordata', 'Insecta', etc. to indicate that no particular species is targeted | Multiple selection | Yes |
| SurveillanceActivitySpeciesIdentificationMethod | Animal Source Species Identification Method | The methodology used to identify the species of the animals obtained in the field | String | Yes |
| SurveillanceActivitySpeciesIdentificationMethodReferences | Animal Source Species Identification Method References | References supporting the methodology used to identify the species of animals obtained in the field | String | No |
| SurveillanceActivityTargetedHazardType | Animal Source Targeted Hazard Type | The types of hazards targeted during the Surveillance Activity in Animal Sources | Multiple selection | Yes |
| SurveillanceActivityTargetedHazardName | Animal Source Targeted Hazard Name | The names of the hazards targeted during the Surveillance Activity in Animal Sources | Multiple selection | Yes |
| SurveillanceActivityTargetedHazardBySpecies | Animal Source Targeted Hazard By Species | The names of the hazards targeted during the Surveillance Activity in Animal Sources by Species | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityFieldAnimalSourceIncluded | Animal Source Records From the Field | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from animals in the field?' (does not include stored carcasses from previous Projects or Surveillance Activities only) | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceCodeStructure | New Animal Source Code Structure | Explain the nomenclature of the new Animal Source Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, and then the number is the sequential number of the Animal Source') | String | Yes |
| SurveillanceActivityFieldObservedOnlyAnimalSource | Animal Source Records From Observed-Only Animals | Answer to the question:'Does the Surveillance Activity involve Animal Source Records from the field but not Carcasses or Specimens?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityCaptureFieldAnimalSource | Animal Source Records From Captured Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from animals captured or restrained in the field? (not stored carcasses from previous projects or surveillance activities or observations only)' | Boolean | Yes |
| SurveillanceActivityOneTimeCaptureFieldAnimalSource | Animal Source Records From Non-marked Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from non-marked animals captured or restrained in the field?' | Boolean | Yes |
| SurveillanceActivityReleaseCaptureFieldAnimalSource | Animal Source Records From Non-marked Released Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from originally captive animals that were then release to the field and then recaptured over time?' | Boolean | Yes |
| SurveillanceActivityMarkReleaseRecaptureFieldAnimalSource | Animal Source Records From Previously Marked and then Released Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from originally captive animals that were marked then release to the field and then recaptured over time?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityReleaseCaptureMarkRecaptureFieldAnimalSource | Animal Source Records From Released Captured Marked and Recaptured Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from originally captive animals that were released to the field and then captured or restrained, marked, and recaptured over time?' | Boolean | Yes |
| SurveillanceActivityCaptureMarkRecaptureFieldAnimalSource | Animal Source Records From Captured Marked and Recaptured Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from animals in the field that are captured or restrained, marked, and recaptured over time?' | Boolean | Yes |
| SurveillanceActivityCaptiveFieldAnimalSources | Animal Soucce Records From Captive Animals | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from animals that are captive (hunted, farm, household, zoo, etc)?' | Boolean | Yes |
| SurveillanceActivityCaptivityCategoryBySpecies | Animal Source Captivity Status Per Species | Description of the captivity status of the Animal Sources included in the Surveillance Activity per species (e.g., 'civets were obtained from farms. Bats from markets) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityCaptivityFacilityBySpecies | Animal Source Captivity Facility Per Species | Description of the captivity facility of the captive Animal Sources included in the Surveillance Activity per species (e.g., 'civets were obtained from farm A, B, C') | String | Yes |
| SurveillanceActivityLocationCaptiveFacilityBySpecies | Animal Source Location of Captivity Facilities Per Species | Description of the location of the captivity facilities of the captive Animal Sources included in the Surveillance Activity per species (e.g., 'farm A where we collected civets is located in town X, Province Y') | String | Yes |
| SurveillanceActivitySourceInclusionCriteriaAny | Any Animal Source Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific Animal Sources of any species besides the species itself? (e.g., animals of certain age or health condition only)' | Boolean | Yes |
| SurveillanceActivitySourceInclusionCriteriaBySpecies | Animal Source Inclusion Criteria By Species | The specific criteria for the inclusion of Animal Sources of the species of interest, if any, by species | String | Yes |
| SurveillanceActivitySourceExclusionCriteriaAny | Any Animal Source Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific Animal Sources of any species? (e.g., animals of certain age or health condition)' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivitySourceExclusionCriteriaBySpecies | Animal Source Exclusion Criteria By Species | The specific criteria for the exclusion of Animal Sources of the species of interest, if any, by species | String | Yes |
| SurveillanceActivitySourceFollowedOverTime | Animal Source Followed Over Time | Answer to the question: 'Are Animal Sources followed during the Surveillance Activity and Source Records of these animals are obtained over time?' | Boolean | Yes |
| SurveillanceActivitySourceFollowedOverTimeFrequencyBySpecies | Animal Source Followed Over Time Frequency By Species | Description of the frequency Animal Sources are observed, collected, examined, etc. | String | Yes |
| SurveillanceActivitySourceIdentification | Animal Source Identification | Answer to the question: 'Are Animal Sources individually identified during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivitySourceIdentificationMethodBySpecies | Animal Source Identification Method By Species | Description how Animal Sources are individually identified during the Surveillance Activity by species | String | Yes |
| SurveillanceActivitySourceIdentificationMethodReferencesBySpecies | Animal Source Identification Method References By Species | References associated with identification method of Animal Sources identified during the Surveillance Activity, by species | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityId
entifiedSourceInPreviousSurveillanceActivity | Animal Source Records from Animals Identified in Previous Surveillance Activities | Answer to the question:'Does the Surveillance Activity involve obtaining Animal Source Records from animals that were individually identified in previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityId
entifiedSourceOriginProjectCode | Project Code Animal Sources Identified in Previous Surveillance Activities | The Code of the Project under which the identified Animal Sources were identified | String | Yes |
| SurveillanceActivityId
entifiedSourcePreviousSurveillanceActivityCode | Surveillance Activity Code Animal Sources Identified in Previous Surveillance Activities | The Code of the Surveillance Activity under which the identified Animal Sources were identified | String | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassFieldNecropsy | Animal Source Carcass Field Necropsy | Answer to the question: 'Are field necropsies conducted as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassFieldNecropsyProtocolBySpecies | Animal Source Field Necropsy Carcass Protocol | Protocol of the Necropsies conducted in the field during the Surveillance Activity | String | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassFieldNecropsyProtocolReferences | Animal Source Field Necropsy Carcass Protocol | References supporting the protocol of the Necropsies conducted in the field during the Surveillance Activity | String | No |
| SurveillanceActivityFieldAnimalSourceCarcassCollected | Animal Source Carcass Collected | Answer to the question: 'Are Carcasses of Animal Sources collected from the field as part of the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityFieldAnimalSourceCarcassCollectedInclusionCriteriaAny | Any Animal Source Carcass Collected Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific Animal Source Carcasses of the species of interest besides the species itself? (e.g., carcasses of certain age)' | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassCollectedInclusionCriteria | Animal Source Carcass Collected Inclusion Criteria | The specific criteria for the inclusion of Animal Source Carcasses of the species of interest collected from the field, if any | String | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassCollectedExclusionCriteriaAny | Any Animal Source Carcass Collected Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific Animal Source Carcasses of the species of interest? (e.g., carcasses of certain age)' | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassCollectedExclusionCriteria | Animal Source Carcass Collected Exclusion Criteria | The specific criteria for the exclusion of Animal Source Carcasses of the species of interest collected from the field of, if any | String | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassFieldStorage | Field Animal Source Carcass Field Storage | Method to store the Animal Source Carcasses collected while in the field under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityFieldAnimalSourceCarcassLabStorage | Field Animal Source Carcass Facility Storage | Method to store the Animal Source Carcasses collected in a facility under the current Surveillance Activity | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|--------------------|-----------|
| SurveillanceActivityStoredCarcassIncluded | Animal Source Stored Carcass Included | Answer to the question: 'Are Stored Animal Source Carcasses included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityStoredCarcassOriginProjectCode | Stored Carcasses Project Origin Code | The Code of the Project during which the stored Carcasses included in the current Surveillance Activity were collected | Multiple selection | Yes |
| SurveillanceActivityStoredCarcassPreviousSurveillanceActivityCode | Stored Carcasses Previous Surveillance Activity Code | The previous Surveillance Activity Codes of the stored Carcasses included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredCarcassInclusionCriteriaAny | Any Stored Carcass Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific stored Carcasses of the species of interest besides the species itself? (e.g., carcasses of certain age)' | Boolean | Yes |
| SurveillanceActivityStoredCarcassInclusionCriteria | Store Carcass Inclusion Criteria | The specific criteria for the inclusion of stored Carcasses of the species of interest, if any | String | Yes |
| SurveillanceActivityStoredCarcassExclusionCriteriaAny | Any Stored Carcass Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific stored Carcasses of the species of interest besides the species itself? (e.g., carcasses of certain age)' | Boolean | Yes |
| SurveillanceActivityStoredCarcassExclusionCriteria | Store Carcass Exclusion Criteria | The specific criteria for the exclusion of stored Carcasses of the species of interest, if any | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityCarcassLabNecropsy | Carcass Laboratory Necropsy | Answer to the question: 'Are Necropsies conducted in a facility during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityCarcassLabNecropsyProtocol | Carcass Laboratory Necropsy Protocols | Protocols of the necropsies conducted in a facility | String | Yes |
| SurveillanceActivityCarcassLabNecropsyProtocolReferences | Carcass Laboratory Necropsy Protocols References | References associated with the protocols of the necropsies conducted in a facility | String | No |
| SurveillanceActivityCarcassLabNecropsyNumberBySpeciesCaptivity | Carcass Laboratory Necropsy Number By Species and Captivity | Number of necropsies in the laboratory per species, and captivity category | String | Yes |
| SurveillanceActivityAnimalSourceRecordCodeStructure | Animal Source Record Code Structure | Explain the nomenclature of the Codes of Animal Source Record obtained as part of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Animal Source in the Surveillance Activity code, and the number is the sequential number of the Animal Source Record') | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityAnimalSourceRecordInclusionCriteriaAny | Any Animal Source Record Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific Animal Source Records of the species of interest besides the species itself? (e.g., animals of certain age)' | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordInclusionCriteria | Animal Source Record Inclusion Criteria | The specific criteria for the inclusion of Animal Source Records, if any | String | Yes |
| SurveillanceActivityAnimalSourceRecordExclusionCriteriaAny | Any Animal Source Record Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific Animal Source Records of the species of interest? (e.g., animals of certain age)' | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordExclusionCriteria | Animal Source Record Exclusion Criteria | The specific criteria for the exclusion of Animal Source Records, if any | String | Yes |
| SurveillanceActivityAnimalSourceRecordVaccinated | Animal Source Record Vaccinated | Answer to the question: 'Are Animal Sources vaccinated at sampling as part of the Surveillance Activity | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordVaccinatedAgainst | Animal Source Record Vaccinated Against | The hazards vaccinated against. Vaccines against toxins and other non-pathogen hazards must also be reported | Multiple selection | Yes |
| SurveillanceActivityFieldAnimalSourceRecordNumberBySpeciesCaptivity | Number Field Animal Source Records Per Species Captivity | Number of Animal Source Records from the field per species and captivity category | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityAnimalSourceRecordClustering | Animal Source Records Clustering | Answer to the question: 'Are Animal Source Records clustered in units smaller than the Event?' | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordClusteringDescription | Animal Source Records Cluster Description | Description of Animal Source Records cluster units smaller than Event | String | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnostic | Animal Source Or Carcass Diagnostic | Answer to the question: 'Are Animal Sources or their collected or stored Carcasses used to conduct a Diagnostic during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticProtocols | Animal Source Or Carcass Diagnostic Protocols | Protocols of the new Diagnostic(s) conducted on Animal Sources or their collected or stored Carcasses | String | Yes |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticProtocolsReferences | Animal Source Or Carcass Diagnostic Protocol References | References associated with the protocols of Diagnostics conducted on Animal Sources or their collected or stored Carcasses | String | No |
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticOutput | Animal Source Or Carcass Diagnostic Output | Description of the output of the Diagnostics conducted in Animal Sources or their collected or stored Carcasses (e.g., a color band, a sequence, a cultivated plate, etc.) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|--------------------|-----------|
| SurveillanceActivitySourceOrCarcassOrStoredCarcassDiagnosticDiagnosticProducts | Animal Source Or Carcass Diagnostic Products | Answer to the question: 'Do any of the Diagnostics conducted in Animal Sources or their collected or stored Carcasses generate products that are stored?' | Boolean | Yes |
| SurveillanceActivityAnimalSourceSpecimens | Animal Source Specimens | Answer to the question: 'Are Animal Source Specimens, collected from the field, collected from a stored Carcass, or stored included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceSpecimens | Field Animal Source Specimens | Answer to the question: 'Are Specimens from Animal Sources collected from the field during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldAnimalSourceSpecimenTypes | Field Animal Source Specimen Types | The type of Animal Source Specimens collected in the field as part of the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityFieldAnimalSourceSpecimenCollectionMethod | Field Animal Source Specimen Collection Method | Description of the methods used to obtain Specimens from Animals Sources in the field during the Surveillance Activity | String | Yes |
| SurveillanceActivityFieldAnimalSourceSpecimenCollectionMethodReferences | Field Animal Source Specimen Collection Method References | References associated with the methods to obtain Specimens from Animals Sources in the field during the Surveillance Activity | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|--------------------|-----------|
| SurveillanceActivityFieldAnimalSourceSpecimenFieldStorage | Field Animal Source Specimen Field Storage | Method to store the Animal Source Specimens collected in the field while in the field during the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredCarcassNewSpecimens | Stored Carcasses New Specimens | Answer to the question: 'Are new Specimens collected from stored Carcasses included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityStoredCarcassNewSpecimenTypes | Stored Carcasses New Specimen Types | The type of Animal Source Specimens collected from stored Carcasses as part of the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredCarcassNewSpecimenCollectionMethod | Stored Carcasses New Specimen Collection Method | Description of the methods to obtain Specimens from stored Carcasses during the Surveillance Activity | String | Yes |
| SurveillanceActivityStoredCarcassNewSpecimenCollectionMethodReferences | Field Animal Source Specimen Collection Method References | References associated with the methods to obtain Specimens from stored Carcasses during the Surveillance Activity | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityNewSpecimenCodeStructure | Field Animal Source Specimen Code Structure | Explain the nomenclature of the Codes of Animal Source Specimens obtained as part of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Animal Source in the Surveillance Activity code, and the number is the sequential number of the Specimen') | String | Yes |
| SurveillanceActivityNewSpecimenInclusionCriteriaByTypeAny | Any New Animal Source Specimen Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific new Animal Source Specimens obtained during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewSpecimenInclusionCriteriaByType | New Animal Source Specimen Inclusion Criteria | The specific criteria for the inclusion of new Animal Source Specimens obtained during the Surveillance Activity, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNewSpecimenExclusionCriteriaByTypeAny | Any New Animal Source Specimen Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific new Animal Source Specimens obtained during the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|--------------------|-----------|
| SurveillanceActivityNewSpecimenExclusionCriteriaByType | New Animal Source Specimen Exclusion Criteria | The specific criteria for the exclusion of new Animal Source Specimens obtained during the Surveillance Activity, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNewSpecimenLabStorage | New Specimen Facility Storage | Method to store new Animal Source Specimens generated during the Surveillance Activity in a facility | Multiple selection | Yes |
| SurveillanceActivityNumberNewAnimalSourceSpecimensKnown | Number Animal Source Field Specimens Known | Answer to the question: 'Is the number of Specimens from Animal Sources to be collected in the field as part of the Surveillance Activity known a priori?' | Boolean | Yes |
| SurveillanceActivityNumberNewAnimalSourceSpecimensByTypeSpecies | Number Animal Source Field Specimens By Type Species | The number of Specimens from Animal Sources to be collected in the field as part of the Surveillance Activity by type and species | String | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimens | Stored Animal Source Specimens | Answer to the question: 'Are stored Animal Sources Specimens included the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimenTypes | Stored Animal Source Specimen Types | The type of stored Animal Source Specimens included in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimensProjectOrigin | Stored Specimens Project Origin Code | The Code of the Project during which the stored Animal Source Specimens included in the current Surveillance Activity were collected | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|--------------------|-----------|
| SurveillanceActivityStoredAnimalSourceSpecimensSurveillanceActivity | Stored Specimens Previous Surveillance Activity Code | The previous Surveillance Activity Codes of the stored Animal Source Specimens included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimenInclusionCriteriaByTypeAny | Any Stored Animal Source Specimen Inclusion Criteria | Answer to the question: 'Is there any criteria to include specific stored Animal Source Specimens?' | Boolean | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimenInclusionCriteriaByType | Stored Animal Source Record Inclusion Criteria | The specific criteria for the inclusion of stored Animal Source Specimens, if any, by Specimen Type | String | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimenExclusionCriteriaByTypeAny | Any Stored Animal Source Specimen Exclusion Criteria | Answer to the question: 'Is there any criteria to exclude specific stored Animal Source Specimens?' | Boolean | Yes |
| SurveillanceActivityStoredAnimalSourceSpecimenExclusionCriteriaByType | Stored Animal Source Record Exclusion Criteria | The specific criteria for the exclusion of stored Animal Source Specimens, if any, by Specimen Type | String | Yes |
| SurveillanceActivityNumberStoredAnimalsourceSpecimensKnown | Number Stored Animal Source Specimens Known | Answer to the question: 'Is the number of stored Specimens from Animal Sources to be included in the Surveillance Activity known a priori?' | Boolean | Yes |
| SurveillanceActivityNumberStoredAnimalsourceSpecimensByTypeSpecies | Number Stored Animal Source Specimens By Type Species | The number of stored Specimens from Animal Sources to be included in the Surveillance Activity by type and species | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityAnimalSourceSpecimensIncludesParasitesVectors | Animal Source Specimens Includes Parasites or Vectors | Answer to the question: 'Are parasites or vectors collected from Animal Sources included as Specimens in the current Surveillance Activity? (e.g., collecting a tick directly from a wolf or in the proximity of a carcass). If the parasite or vectors are collected from the environment, then the parasites or vectors are an 'Arthropod Source' | Boolean | No |
| SurveillanceActivityAnimalSourceSpecimenPooling | Animal Source Specimen Pooling | Answer to the question: 'Are Animal Source Specimens included in the current Surveillance Activity pooled with Specimens from any type of Source?' (for a definition of 'pooling' in the database see the online database manual) | Boolean | Yes |
| SurveillanceActivityAnimalSourceSpecimenPoolingStrategy | Animal Source Specimen Pooling Strategy | Explanation of the method to pool Animal Source Specimens used in the current Surveillance Activity (for a definition of 'pooling' in the database see the online database manual) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivitySpecimenNewDiagnos tics | Surveillance Activity Animal Source Diagnostics | Answer to the question: 'Are Diagnostics conducted with Animal Source Specimens (new or stored) as part of the Surveillance Activity ?' | Boolean | Yes |
| SurveillanceActivitySpecimenNewDiagnos ticsProtocolByHazard SpecimenTypeSpecies | Animal Source Protocol Diagnostics | Description of the Diagnostic protocols conducted with the Animal Source Specimens included in the Surveillance Activity per hazard, Specimen type, and host species | String | Yes |
| SurveillanceActivitySpecimenNewDiagnos ticsProtocolByHazard SpecimenTypeSpeciesReferences | Animal Source Protocol Diagnostics References | References associated with the Diagnostic protocols conducted with the Animal Source Specimens included in the Surveillance Activity | String | No |
| SurveillanceActivitySpecimenNewDiagnos ticsProtocolsOutputs | Animal Source Diagnostic Outputs | Description of the output of the Diagnostics conducted using Animal Source Specimens during the Surveillance Activity | String | Yes |
| SurveillanceActivitySpecimenNewDiagnos ticsProtocolsProducts | Animal Source Diagnostic Products | Answer to the question: 'Are there Products created as a result of the Diagnostics conducted in Animal Source Specimens included in the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityAnimalSourceNewFieldVisits | Animal Source Records From New Field Visits | Answer to the question: 'Are Animal Source Records obtained during Field Visits of the current Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityFieldVisitList | Field Visit List Animal Source Records | A list with the Field Visits where Animal Source Records are obtained from in the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitOtherAttributes | Field Visit Animal Source Records Other Attributes | Answer to the question: 'Are other properties of Field Visits where Animal Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |
| SurveillanceActivityFieldVisitListDefinitionOtherAttributes | Field Visit Animal Source Records Definition Other Attributes | Description of the other attributes of Field Visits where Animal Source Records are obtained during the current Surveillance Activity tracked. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityFieldVisitNumberKnown | Number Field Visits Known | Answer to the question: 'Is the total number of Field Visits during to obtain Animal Source Records the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumber | Number Field Visits | The number of planned Field Visits to obtain Animal Source Records during the current Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityFieldVisitNumberLocationsKnown | Number Locations Surveyed Per Field Visit Known | Answer to the question: 'Is the total number of Locations surveyed per Field Visit where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberLocations | Number Locations Per Field Visit | The number of planned Locations surveyed per Field Visit where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitNumberEventsKnown | Number Events Per Field Visit Known | Answer to the question: 'Is the total number of Events per Field Visit where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberEvents | Number Events Per Field Visit | The number of planned Events per Field Visit where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityFieldVisitNumberCollectionKnown | Number Collections Per Field Visit Known | Answer to the question: 'Is the total number of Collections per Field Visit where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberCollection | Number Collections Per Field Visit | The number of planned Collections per Field Visit where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|--------------------|-----------|
| SurveillanceActivityFieldVisitNumberAnimalSourceRecordsKnown | Number Animal Source Records Per Field Visit Known | Answer to the question: 'Is the total number of Animal Source Records per Field Visit for the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityFieldVisitNumberAnimalSourceRecords | Number Animal Source Records Per Field Visit | The number of Animal Sources to obtain Records per Field Visit of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationUnitofInterest | Location Unit of Interest | Answer to the question: 'Are the Locations where new Animal Source Records are obtained a unit of interest in the Surveillance Activity (e.g., markets where animals of Animal Sources are caged)?' | Boolean | Yes |
| SurveillanceActivityLocationDefinition | Location Definition | Description of what the Locations of origin of Animal Source Records are (e.g., a parcel, an zone of a proteced area, a city, etc.) | String | Yes |
| SurveillanceActivityLocationPreviousSurveillanceActivities | Location Previous Surveillance Activities | Answer to the question: 'Are there Locations of origin of Animal Source Records in the current Surveillance Activity that have been included in previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityLocationPreviousProjectCodes | Location Previous Project Codes | The Code of the Projects also containing Locations included in the current Surveillance Activity | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|--------------------|-----------|
| SurveillanceActivityLocationPreviousSurveillanceActivityCodes | Location Previous Surveillance Activity Code | The Code of the Surveillance Activities also containing Locations included in the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityLocationList | Location List Animal Source Records | A list with the Location names or codes where Animal Source Records are obtained from in the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationSpatialFileProvided | Location Animal Source Records Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Locations where Animal Source Records are obtained in the current Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityLocationPolygonProjection | Location Animal Source Records Polygon Projection | The projection of the spatial data in the provided file with the Locations where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationOtherAttributes | Location Animal Source Records Other Attributes | Answer to the question: 'Are other properties of Locations where Animal Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityLocationListDefinitionOtherAttributes | Location Animal Source Records Definition Other Attributes | Description of the other attributes of Locations where Animal Source Records are obtained during the current Surveillance Activity tracked. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityLocationActiveCollection | Active Collection of Animal Source Records at Locations | Answer to the question:'Are Animal Source Records of any species obtained through an active collection strategy in the Locations (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityLocationNumberPlannedSurveysKnown | Number Surveys Per Location Known | Answer to the question: 'Is the total number of surveys to the Locations where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberPlannedSurveys | Number Surveys Per Location | The number of planned surveys per Location where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberEventsKnown | Number Events Per Location Known | Answer to the question: 'Is the total number of Events per Location where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityLocationNumberEvents | Number Events Per Location | The number of planned Events per Location where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberCollectionKnown | Number Collections Per Location Known | Answer to the question: 'Is the total number of Collections per Location where Animal Source Records are obtained during the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberCollection | Number Collections Per Location | The number of planned Collections per Location where Animal Source Records are obtained during the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberFieldAnimalSourceRecordsKnown | Number Animal Source Records Per Location Known | Answer to the question: 'Is the total number of Animal Source Records per Location for the current Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityLocationNumberFieldAnimalSourceRecords | Number Animal Source Records Per Location | The number of Animal Sources to obtain Records from at each Location of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationNumberFieldAnimalSourceRecordsPerSurveyKnown | Number Animal Source Records Per Location Per Survey Known | Answer to the question: 'Is the total number of Animal Source Records per survey to each Location of the current Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityLocationNumberFieldAnimalSourceRecordsPerSurvey | Number Animal Source Records Per Location Per Survey | The number of Animal Source Records per survey to each Location of the current Surveillance Activity | String | Yes |
| SurveillanceActivityLocationClustering | Location Clustering | Answer to the question: 'Are the Locations of the current Surveillance Activity spatially or temporally clustered in units smaller than the Field Visit?' | Boolean | Yes |
| SurveillanceActivityEventUnitofInterest | Event Unit of Interest | Answer to the question: 'Are the Events where new Animal Source Records are obtained a unit of interest in the Surveillance Activity (e.g., the actual spatiotemporal coordinate is of interest)?' | Boolean | Yes |
| SurveillanceActivityEventDefinition | Event Definition | Description of what the Events where Animal Source Records are obtained (e.g., a trap, a cage) | String | Yes |
| SurveillanceActivityEventIncludesHealthyAnimalSources | Event Includes Healthy Animal Sources | Answer to the question: Are healthy Animal Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityEventIncludesSickAnimalSources | Event Includes Sick Animal Sources | Answer to the question: Are sick Animal Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityEventIncludesInjuredAnimalSources | Event Includes Injured Animal Sources | Answer to the question: Are injured Animal Sources recorded as part of the Event? | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---------------------------------------|---|---------|-----------|
| SurveillanceActivityEventIncludesDeadAnimalSources | Event Includes Dead Animal Sources | Answer to the question: Are dead Animal Sources recorded as part of the Event? | Boolean | Yes |
| SurveillanceActivityNewAnimalSourceEventIncludesManyAnimalSources | Event Includes Several Animal Sources | Answer to the question: 'Do Events where Animal Source Records are obtained from contain records of other Animal Sources?' | Boolean | Yes |
| SurveillanceActivityNewAnimalSourceEventIncludesGroupSources | Event Includes Group Sources | Answer to the question: 'Do Events where Animal Source Records are obtained from contain records of Group Sources?' | Boolean | Yes |
| SurveillanceActivityNewAnimalSourceEventIncludeEnvironmentalSources | Event Includes Environmental Sources | Answer to the question: 'Do Events where new Animal Source Records are obtained from contain records of Environmental Sources?' | Boolean | Yes |
| SurveillanceActivityNewAnimalSourceEventIncludeArthropodSources | Event Includes Arthropod Sources | Answer to the question: 'Do Events where new Animal Source Records are obtained from contain records of Arthropod Sources?' | Boolean | Yes |
| SurveillanceActivityEventOtherAttributes | Event Other Attributes | Answer to the question: 'Are other properties of Events where Animal Source Records are obtained during the current Surveillance Activity tracked that are not included in the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|-----------------------------------|---|---------|-----------|
| SurveillanceActivityEventListDefinitionOtherAttributes | Event Definition Other Attributes | Description of the other attributes of Events where Animal Source Records are obtained during the current Surveillance Activity tracked.
Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityEventSiteSeveralSurveys | Several Events Per Site | Answer to the question: 'Are there multiple Events at the same sites where Animal Source Records are obtained during the current Surveillance Activity? (Several Events over time for the same unit. For example, monthly Events in a roost)' | boolean | Yes |
| SurveillanceActivityEventNumberPlannedSurveysKnown | Events Per Site Known | Answer to the question: 'Is the number of Events to obtain Animal Source Records at the same site during the Surveillance Activity known'? | Boolean | Yes |
| SurveillanceActivityEventNumberPlannedSurveys | Number Events Per Site | Description of the number of Events at the sites where Animal Source Records are obtained from during the Surveillance Activity | String | Yes |
| SurveillanceActivityEventNumberCollectionKnown | Collections Per Event Known | Answer to the question: 'Is the number of Collections at Events to obtain Animal Source Records during the Surveillance Activity known'? | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityEventNumberCollection | Number Collections Per Event | Description of the number of Collection at Events where Animal Source Records are obtained from during the Surveillance Activity | String | Yes |
| SurveillanceActivityEventNumberFieldAnimalSourceRecordsKnown | Number Animal Source Records Per Event Known | Answer to the question: 'Is the number of Animal Source Records per Event of the the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityEventNumberFieldAnimalSourceRecords | Number Animal Source Records Per Event | Description of the number of Animal Source Records at Events of the Surveillance Activity | String | Yes |
| SurveillanceActivityEventClustering | Events Clustering | Answer to the question: 'Are the Events of the current Surveillance Activity spatially or temporally clustered in units smaller than the Field Visit?' | Boolean | Yes |
| SurveillanceActivityCollectionPassive | Field Animal Source Passive Collection | Answer to the question:'Are Animal Source Records of any species obtained from the field through a passive collection strategy (e.g., citizen reports, information from news outlets)?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityCollectionActive | Field Animal Source Active Collection | Answer to the question:'Are Animal Source Records of any species obtained from the field through an active collection strategy (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityCollectionMethodsBySpecies | Field Animal Source Collection Methods By Species | Description of the Collection methods used to obtain Animal Source Records by species (e.g., pair of mist nets placed in X for Y hours in S sites every M months under a bat roost and blood samples re collected using ... etc.) | String | Yes |
| SurveillanceActivityCollectionMethodActiveExpectedEffortBySpecies | Field Animal Source Active Collection Methods Expected Effort | Expected effort of the Active Collection Methods to obtain Animal Source Records actively by species (e.g., two mist nets per trapping session placed for X hours) | String | Yes |
| SurveillanceActivityFieldAnimalSourceCollectionMethodReferences | Animal Source Collection Method References | Name the references supporting the methods used to collect the new Animal Sources from the field | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityCollectionOtherAttributes | Collection Other Attributes | Answer to the question: 'Are other properties of Collections to obtain Animal Source Records during the current Surveillance Activity that are not tracked in the data model?' | Boolean | Yes |
| SurveillanceActivityCollectionListDefinitionOtherAttributes | Collection Definition Other Attributes | Description of the other attributes of Collections to obtain Animal Source Records during the current Surveillance Activity that are not tracked in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityCollectionManyAnimalSourcesRecords | Collection Includes Several Animal Sources | Answer to the question: 'Do Collections to obtain Animal Source Records contain records of other Animal Sources?' | Boolean | Yes |
| SurveillanceActivityCollectionRecordsOtherSourceTypes | Collection Other Source Types | Answer to the question: 'Can a single Collection involve other Source types besides Animal Source Records?(e.g. An animal Source Record and an Environmental Source Record)' | Boolean | Yes |
| SurveillanceActivityCollectionNumberFieldAnimalSourceRecordsKnown | Number Animal Source Records Per Collection Known | Answer to the question: 'Is the number of Animal Source Records per Collection of the the Surveillance Activity known'? | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|--------|-----------|
| SurveillanceActivityCollectionNumberFieldAnimalSourceRecords | Number Animal Source Records Per Collection | Description of the number of Animal Source Records per Collection of the Surveillance Activity | String | Yes |
| AnimalSourceRecordPositiveDiagnosticByDiagnosticMethod | Criteria Diagnostic in Animal Source is Positive | Criteria to establish that each Diagnostic test applied to a Animal Source Record is positive (Diagnostic case definition for diagnostics applied to Animal Source Records or their Carcasses) | String | Yes |
| AnimalSourceRecordPositiveDiagnosticByDiagnosticMethodReferences | Criteria Positive Diagnostic in Animal Source Record References | Provide references supporting the criteria to establish that each Diagnostic test applied to a Animal Source Record is positive | String | No |
| AnimalSourceSpecimenPositiveDiagnosticByMethod | Criteria Diagnostics in Specimen is Positive | Criteria to establish that each Diagnostic test applied to a Animal Source Specimen is positive (Diagnostic case definition for diagnostics applied to Animal Source Specimens) | String | Yes |
| AnimalSourceSpecimenPositiveDiagnosticByMethodReferences | Criteria Positive Diagnostic in Animal Source Specimen References | References associated with the criteria to establish that each Diagnostic test applied to an Animal Source Specimen is positive | String | No |
| AnimalSourceSpecimenPositiveCasePerHazard | Animal Source Specimen Criteria Positive Case | Criteria to establish that a Animal Source Specimen is positive for each specific hazard targeted in the Surveillance Activity (positive Specimen case definition) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|------------------|-----------|
| AnimalSourceSpecimenPositiveCasePerHazardReferences | Criteria Positive Animal Source Specimen References | References associated with the criteria to establish that an Animal Source Specimen is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| AnimalSourceRecordPositiveCasePerHazard | Animal Source Record Criteria Positive Case | Explain the criteria to establish that an Animal Source Record is positive for each specific hazard targeted in the Surveillance Activity (positive Animal Source Record case definition) | String | Yes |
| AnimalSourceRecordPositiveCasePerHazardReferences | Criteria Positive Animal Source Record References | References associated with the criteria to establish that an Animal Source Record is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| AnimalSourceRecordDiagnosticInterpretation | Animal Source Record Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Animal Source Records or their Carcasses interpreted as part of the Surveillance Activity?' | boolean | Yes |
| AnimalSourceRecordDiagnosticInterpretationBy | Animal Source Record Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostics conducted in Animal Source Records | Single selection | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|------------------|-----------|
| AnimalSourceSpecimenDiagnosticInterpretation | Animal Source Specimen Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Animal Source Specimens Interpreted as part of the Surveillance Activity?' | boolean | Yes |
| AnimalSourceSpecimenDiagnosticInterpretationBy | Animal Source Specimen Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostic conducted in Animal Source Specimens | Single selection | No |
| AnimalSourceSpecimenInterpretation | Animal Source Specimen Interpretation | Answer to the question: 'Does the presence of targeted hazards in Animal Source Specimens receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| AnimalSourceSpecimenInterpretationBy | Animal Source Specimen Interpretation by | The individual providing the Interpretation of targeted hazards in Animal Source Specimens | Single selection | No |
| AnimalSourceRecordInterpretation | Animal Source Record Interpretation | Answer to the question: 'Does the presence of targeted hazards in Animal Source Records receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| AnimalSourceRecordInterpretationBy | Surveillance Activity Animal Source Record Interpretation by | The individual providing the Interpretation of the Animal Source Records with respect to the presence of targeted hazards | Single selection | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityNewAnimalSourcesfromGroupSource | New Animal Sources from Group Sources | Answer to the question: 'Are New Animal Sources created from previous or new Group Sources during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewAnimalSourcesfromGroupSourceReason | New Animal Sources from Group Sources Reason | Reason new Animal Sources are created from previous or Group Sources during the Surveillance Activity' (e.g., an individual from a Group Source is found dead and the carcass is collected for necropsy) | String | Yes |
| SurveillanceActivityNewAnimalSourcesfromGroupSourceSurveillanceActivityGroupSource | Animal Source Original Group Source Surveillance Activity Code | The Surveillance Activity Code of the original Group Source generating Animal Sources | String | No |
| SurveillanceActivityNewAnimalSourcesfromGroupSourceProjectGroupSource | Animal Source Original Group Source Project Code | The Project Code of origin of the Group Source generating Animal Sources | String | No |

Surveillance Activity - Animal Source Records Clustering

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityAnimalSourceRecordClustering | Surveillance Activity Animal Source Record Clustering | Answer to the question:'Are Animal Source Records of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordsSpatialClustering | Surveillance Activity Animal Source Record Spatial Clustering | Answer to the question:'Are Animal Source Records of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Animal Sources represent herds and herds are clustered by pen | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordsSpatialNestedClustering | Surveillance Activity Animal Source Record Spatial Nested Clustering | Answer to the question:'Are Animal Source Record of the Surveillance Activity spatially clustered in nested levels?' For example, Animal Sources are herds and herds are clustered by pen | Boolean | Yes |
| SurveillanceActivityAnimalSourceSpatialNumberOfNestedClusters | Surveillance Activity Animal Source Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels Animaling Animal Source Records | Integer | Yes |
| SurveillanceActivityAnimalSourceSpatialNestedClusterLevelsRepresent | Surveillance Activity Animal Source Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster Animaling Animal Source Records is. For example, Level 1 are areas Level 2 are grid cells within areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityAnimalSourceSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Animal Source Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters Animalizing Animal Source Records. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |
| SurveillanceActivityAnimalSourceRecordsPerSpatialNestedClusterCategoryKnown | Surveillance Activity Animal Source Records Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Animal Source Records per each category within each spatial nested cluster Animalizing Animal Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordsPerSpatialNestedClusterCategory | Surveillance Activity Animal Source Records Per Spatial Nested Cluster Category | Description of the Animal Source Records per each category of nested spatial clusters Animalizing Animal Source Records. For example, 3 Animal Sources Record per grid cell and the total number of grid cells is ten for a total of 30 Animal Source Records | String | Yes |
| SurveillanceActivityAnimalSourceSpatialNestedClustersOtherAttributes | Surveillance Activity Animal Source Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters Animalizing Animal Source Records contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityAnimalSourceSpatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Animal Source Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters Animaling Animal Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityAnimalSourceRecordsSpatialNonNestedClustering | Surveillance Activity Animal Source Record Spatial Non Nested Clustering | Answer to the question:'Are Animal Source Records of the Surveillance Activity spatially clustered in non-nested Animals?' For example, Animal Sources Records are Animaled by cities and also by zip codes | Boolean | Yes |
| SurveillanceActivityAnimalSourceSpatialNumberNonNestedClusters | Surveillance Activity Animal Source Spatial Number Non Nested Clustering | The number of non-nested spatial clusters Animaling Animal Sources Records | Integer | Yes |
| SurveillanceActivityAnimalSourceSpatialNonNestedClusterRepresent | Surveillance Activity Animal Source Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster Animaling Animal Sources Records is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |
| SurveillanceActivityAnimalSourceSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Animal Source Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster Animaling Animal Source Records. For example, cluster 1 contains 20 cells; cluster 2 contains 2 fenological areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityAnimalSourceRecordsPerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Animal Source Records Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Animal Source Records per each category of each spatial non-nested cluster Animaling Animal Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordsPerSpatialNonNestedClusterCategory | Surveillance Activity Animal Source Records Per Spatial Non Nested Cluster Category | The number of Animal Source Records per each category of each spatial non-nested cluster that are Animaling Animal Source Records | String | Yes |
| SurveillanceActivityAnimalSourceSpatialNonNestedClustersOtherAttributes | Surveillance Activity Animal Source Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters Animaling Animal Sources Records contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityAnimalSourceSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Animal Source Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters Animaling Animal Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityAnimalSourceSpatialClustersFileProvided | Surveillance Activity Animal Source Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters Animaling Animal Source Records and their corresponding categories provided in a file?' | Boolean | Yes |
| SurveillanceActivityAnimalSourceSpatialClustersSpatialProjection | Surveillance Activity Animal Source Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters Animaling Animal Source Records provided in the file | String | No |
| SurveillanceActivityAnimalSourceRecordTemporalClustering | Surveillance Activity Animal Source Record Temporal Clustering | Answer to the question:'Are Animal Source Records of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Animal Sources Records are clustered by decade and month over the years | Boolean | Yes |
| SurveillanceActivityAnimalSourceRecordTemporalNestedClustering | Surveillance Activity Animal Source Record Temporal Nested Clustering | Answer to the question:'Are Animal Source Record of the Surveillance Activity temporally clustered in nested levels?' For example, Animal Source Records are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityAnimalSourceNumberTemporalNestedClustersLevels | Surveillance Activity Animal Source Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters Animaling Animal Source Records | Integer | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityAnimalSourceTemporalNestedClusterLevelsRepresent | Surveillance Activity Animal Source Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters Animalizing Animal Source Records is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |
| SurveillanceActivityAnimalSourceTemporalNumberCategoriesPerNestedClusterLevel | Surveillance Activity Animal Source Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters Animalizing Animal Source Records. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |
| SurveillanceActivityAnimalSourceRecordsPerTemporalNestedClusterCategoryKnown | Surveillance Activity Animal Source Records Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Animal Source Records per each category of each temporal cluster level Animalizing Animal Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityAnimalSourcePerTemporalNestedClusterCategory | Surveillance Activity Animal Source per Temporal Nested Cluster Category | Description of the number of Animal Sources Records per each category of each temporal cluster level
Animaling Animal Source Records. For example, 3 Animal Source Records for season 1 that include 3 Animal Sources during each of the 3 months for a total of 9 Animal Sources Records per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |
| SurveillanceActivityAnimalSourceTemporalNestedClustersOtherAttributes | Surveillance Activity Animal Source Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters Animaling Animal Source Records contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityAnimalSourceTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Animal Source Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters Animaling Animal Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityAnimalSourceRecordTemporalNonNestedClustering | Surveillance Activity Animal Source Record Temporal NonNested Clustering | Answer to the question:'Are Animal Source Records of the Surveillance Activity temporally clustered in non-nested Animals?' For example, Animal Source Records are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityAnimalSourceNumberTemporalNonNestedClusters | Surveillance Activity Animal Source Number Temporal NonNested Clusters | The number of temporal non-nested clusters Animating Animal Source Records | Integer | Yes |
| SurveillanceActivityAnimalSourceTemporalNonNestedClustersRepresent | Surveillance Activity Animal Source Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster Animating Animal Source Records is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |
| SurveillanceActivityAnimalSourceTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Animal Source Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters Animating Animal Source Records. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityAnimalSourcePerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Animal Source per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Animal Source Records per each category within each temporal non-nested cluster Animalizing Animal Source Records known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityAnimalSourcePerTemporalNonNestedClusterCategory | Surveillance Activity Animal Source per Temporal NonNested Cluster Category | Description of the Animal Source Records per each category of the non-nested temporal clusters Animalizing Animal Source Records. For example, 1 Animal Source Record for each date of the year and 365 Animal Source Records per year of the decade | String | No |
| SurveillanceActivityAnimalSourceTemporalNonNestedClustersOtherAttributes | Surveillance Activity Animal Source Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters Animalizing Animal Source Records contain other properties not included in the data model?' | Boolean | Yes |
| SurveillanceActivityAnimalSourceTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Animal Source Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters Animalizing Animal Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityAnimalSourceTemporalClustersFileProvided | Surveillance Activity
Animal Source
Temporal Clusters
File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters Animalizing Animal Source Records and their corresponding categories provided in a file?' | Boolean | Yes |

Surveillance Activity - Environmental Source

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceNumber | Surveillance Activity Environmental Source Number | The full number of Environmental Sources targeted in the Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceRecordsNumber | Surveillance Activity Environmental Source Records Number | The full number of Environmental Source Records of the Surveillance Activity | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsIncluded | Surveillance Activity New Environmental Source New Records Included | Answer to the question: 'Are Environmental Source Records from New Environmental sources part of the Surveillance Activity (e.g., collection of data from new Environmental Sources)?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceCodeStructure | Surveillance Activity New Environmental Source Code Structure | Explain the nomenclature of the new Environmental Source Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, and then the number is the sequential number of the Environmental Source') | String | Yes |
| SurveillanceActivityEnvironmentalSourceLocationPreviousSurveillanceActivities | Surveillance Activity Environmental Source Locations in Previous Surveillance Activities | Answer to the question: 'Have any of the Locations where Environmental Source are placed in the Surveillance Activity been included in previous Suveillance Activities | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceLocationPreviousProjectCodes | Surveillance Activity Environmental Source Locations in Previous Project Codes | The codes of previous Projects containing the Locations where Environmental Source are placed in the current Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceLocationPreviousSurveillanceActivitiesCodes | Surveillance Activity Environmental Source Locations in Previous Surveillance Activities | The codes of previous Surveillance Activities containing the Locations where Environmental Source are placed in the current Surveillance Activities | String | Yes |
| SurveillanceActivityEnvironmentalSourceLocationUnitOfInterest | Surveillance Activity Environmental Source Location Unit of Interest | Answer to the question: 'Are the Locations where Environmental Source are placed a unit of interest in the Surveillance Activity (e.g., parcels where water is collected from)?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceLocationDefinition | Surveillance Activity Environmental Source Location Definition | Description of what the Locations where Environmental Sources are placed represent (e.g., a parcel, an zone of a proteced area, a city, etc.) | String | Yes |
| SurveillanceActivityEnvironmentalSourceLocationList | Surveillance Activity Environmental Source Location List | A list with the Location names or codes where Environmental Sources are placed in the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceLocationSpatialFileProvided | Surveillance Activity Environmental Source Location Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Locations where Environmental Source are placed in the Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceLocationPolygonProjection | Surveillance Activity Environmental Source Location Polygon Projection | The projection of the spatial data of the Locations in the file provided | String | Yes |
| SurveillanceActivityEnvironmentalSourceLocationOtherAttributes | Surveillance Activity Environmental Source Location Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of the Locations where Environmental Sources are placed not included in the the data model?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceLocationListDefinitionOtherAttributes | Surveillance Activity Environmental Source Location Definition Other Attributes | Description of the other attributes of Locations where Environmental Sources are placed not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityEnvironmentalSourcePlannedVisitsPerLocation | Surveillance Activity Environmental Source Planned Visits Per Location | The number of planned visits per Location where Environmental Source are placed in the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceEventNumberPerLocationKnown | Surveillance Activity Environmental Source Event Number Per Location Known | Answer to the question: 'Is the total number of Events per Location where new Environmental Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceEventNumberPerLocation | Surveillance Activity Environmental Source Event Number Per Location | The total number of Events per Location where new Environmental Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionNumberPerLocationKnown | Surveillance Activity Environmental Source Collection Number Per Location Known | Answer to the question: 'Is the total number of Collections per Location where new Environmental Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionNumberPerLocation | Surveillance Activity Environmental Source Collection Number Per Location | the total number of Collections per Location where new Environmental Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourceNumberPerLocationKnown | Surveillance Activity Environmental Source Number Per Location Known | Answer to the question: 'Is the total number of Environmental Source per Location included in the Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceNumberPerLocation | Surveillance Activity Environmental Source Number Per Location | The total number of Environmental Sources per Location included in the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerLocationKnown | Surveillance Activity New Environmental Source Records Number Per Location Known | Answer to the question: 'Is the total number of Environmental Source Records targeted per Location where new Environmental Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerLocation | Surveillance Activity New Environmental Source Records Number Per Location | The total number of Environmental Source Records targeted per Location where new Environmental Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerVisitPerLocationKnown | Surveillance Activity New Environmental Source Records Number Per Visit to a Location Known | Answer to the question: 'Is the total number of Environmental Source Records targeted per visit to each Location where new Environmental Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerVisitPerLocation | Surveillance Activity New Environmental Source Records Number Per Visit per Location | The total number of Environmental Source Records targeted per visit to each Location where new Environmental Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourceEventDefinition | Surveillance Activity Environmental Source Event Definition | Description of what the Events where Environmental Source Records are collected from (e.g., a house, a cave, a tree, etc.) | String | Yes |
| SurveillanceActivityEnvironmentalEventIncludesAnimalSources | Surveillance Activity Event Environmental Source Includes Animal Sources | Answer to the question: Do Events with Environmental Source records include records of Animal Sources? | Boolean | Yes |
| SurveillanceActivityEnvironmentalEventIncludesGroupSources | Surveillance Activity Event Environmental Source Includes Group Sources | Answer to the question: Do Events with Environmental Source records include records of Group Sources? | Boolean | Yes |
| SurveillanceActivityEnvironmentalEventIncludesArthropodSources | Surveillance Activity Event Environmental Source Event Includes Arthropod Sources | Answer to the question: Do Events with Environmental Source records include records of Arthropod Sources? | Boolean | Yes |
| SurveillanceActivityEnvironmentalEventOtherAttributes | Surveillance Activity Event Environmental Source Other Attributes | Answer to the question: 'Are there other properties of interest of the Events containing Environmental Source Records that are not include in the the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityEnvironmentalEventListDefinitionOtherAttributes | Surveillance Activity Event Environmental Source Definition Other Attributes | Description of other attributes of interest for the Events containing Environmental Source Records not included in the data model?' | String | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionNumberPerEventKnown | Surveillance Activity Environmental Source Collection Number Per Event Known | Answer to the question: 'Is the total number of Collections targeting Environmental Sources per Event known?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionNumberPerEvent | Surveillance Activity Environmental Source Collection Number Per Event | The total number of Collections targeting Environmental Sources per Event. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerEventKnown | Surveillance Activity New Environmental Source Records Number Per Event Known | Answer to the question: 'Is the total number of Environmental Source Records targeted per Event known?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerEvent | Surveillance Activity New Environmental Source Records Number Per Event | The total number of Environmental Source Records targeted per Event. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourcePassiveCollection | Surveillance Activity Environmental Source Passive Collection | Answer to the question: 'Are Environmental Source Records obtained through a passive collection strategy (e.g., citizen reports, information from news outlets)?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceActiveCollection | Surveillance Activity Environmental Source Active Collection | Answer to the question:'Are Environmental Source Records obtained through an active collection strategy (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionMethod | Surveillance Activity Environmental Source Collection Method | Description of the Collection methods used to obtain new Environmental Source Records (e.g., pair of mist nets placed in X for Y hours in S sites every M months under a bat roost ans blood samples re collected using ... etc.) | String | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionMethodReferences | Surveillance Activity Environmental Source Collection Method References | Name the references supporting the methods used to collect the new Environmental Source Records | String | No |
| SurveillanceActivityEnvironmentalSourceActiveCollectionMethodExpectedEffort | Surveillance Activity Environmental Source Active Collection Expected Effort | Expected Effort of the Active Collection Methods to obtain Environmental Source Records | String | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionRecordsOtherSourceTypes | Surveillance Activity Environmental Source Collection Records Other Source Types | Answer to the question: 'Do Collections targeting Environmental Source Records also target other Source types?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|------------------|-----------|
| SurveillanceActivityEnvironmentalSourceCollectionOtherAttributes | Surveillance Activity Environmental Source Collection Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of Collections to obtain Environmental Source Records not included in the data model?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceCollectionListDefinitionOtherAttributes | Surveillance Activity Environmental Source Collection Definition Other Attributes | Description of other attributes of interest for the Collections targeting Environmental Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerCollectionKnown | Surveillance Activity New Environmental Source Records Number Per Collection Known | Answer to the question: 'Is the number of Environmental Source Records per Collection targeting Environmental Sources known?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerCollection | Surveillance Activity New Environmental Source Records Number Per Collection | The total number of Environmental Sources Records per Collection. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourcePreDetermined | Surveillance Activity Environmental Source PreDetermined | Answer to the question: 'Are the Environmental Sources to be included in the Surveillance Activity predetermined?' (the opposite option is to determine them opportunistically during a Field Visit) | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourcePreviousSurveillanceActivities | Surveillance Activity Environmental Source in Previous Surveillance Activities | Answer to the question: 'Have any of the Environmental Sources of the Surveillance Activity been included in previous Suveillance Activities | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcePreviousProjectCodes | Surveillance Activity Environmental Source Previous Project Codes | The codes of previous Projects containing the Environmental Sources included in the current Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourcePreviousSurveillanceActivitiesCodes | Surveillance Activity Environmental Source Previous Surveillance Activity Codes | The codes of previous Surveillance Activities containing the Environmental Sources included in the current Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceList | Surveillance Activity Environmental Source List | A list with the names or codes of the Environmental Source included in the Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceHowDefined | Surveillance Activity Environmental Source How Defined | Description of the process to select the Environmental Sources included in the Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceIdentificationMethod | Surveillance Activity Environmental Source Identification Method | The methodology used to identify the Environmental Sources included in the Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceIdentificationMethodReferences | Surveillance Activity Environmental Source Identification Method References | References methodology used to identify the Environmental Sources included in Surveillance Activity | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceInclusionCriteria | Surveillance Activity Environmental Source Inclusion Criteria | The specific criteria to include Environmental Sources in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityEnvironmentalSourceExclusionCriteria | Surveillance Activity Environmental Source Exclusion Criteria | The specific criteria to exclude Environmental Sources from the Surveillance Activity, if any | String | No |
| SurveillanceActivityEnvironmentalSourceFollowedOverTime | Surveillance Activity Environmental Source Followed Over Time | Answer to the question: 'Are Environmental Sources followed during the Surveillance Activity and Source Records obtained over time?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceFollowedOverTimeFrequency | Surveillance Activity Environmental Source Followed Over Time Frequency | Description of the frequency that Environmental Source will be examined | String | Yes |
| SurveillanceActivityEnvironmentalSourcePlannedVisitsPerSource | Surveillance Activity Environmental Source Planned Visits Per Source | The number of planned visits per Environmental Source of the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalSourceOtherAttributes | Surveillance Activity Environmental Source Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of Environmental Sources not included in the the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| SurveillanceActivityEnvironmentalSourceListDefinitionOtherAttributes | Surveillance Activity Environmental Source Definition Other Attributes | Description of other attributes of interest for the Environmental Sources not included in the the data model?' | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialFileProvided | Surveillance Activity Environmental Source Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Environmental Sources in the Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceProjection | Surveillance Activity Environmental Source Projection | The projection of the spatial data of the Environmental Sources in the file provided | String | Yes |
| SurveillanceActivityPreviousEnvironmentalSourceNewRecords | Surveillance Activity Previous Environmental Source New Records | Answer to the question: 'Do Environmental Sources that have been included in previous Surveillance Activities generate new records for the current Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityPreviousEnvironmentalSourceProjectID | Surveillance Activity Previous Environmental Source Project ID | The code of the Projects under which Environmental Sources included in the current Surveillance Activity were previously included | Multiple selection | Yes |
| SurveillanceActivityPreviousEnvironmentalSourceSurveillanceActivityID | Surveillance Activity Previous Environmental Source SurveillanceActivity ID | The code of the Surveillance Activites under which Environmental Sources included in the current Surveillance Activity were previously included | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityPreviousEnvironmentalSourceInclusionCriteria | Surveillance Activity Previous Environmental Source Inclusion Criteria | The specific criteria for the inclusion of previous Environmental Sources, if any | String | Yes |
| SurveillanceActivityPreviousEnvironmentalSourceExclusionCriteria | Surveillance Activity Previous Environmental Source Exclusion Criteria | The specific criteria for the exclusion of previous Environmental Sources, if any | String | No |
| SurveillanceActivityNewEnvironmentalSourceRecordInclusionCriteria | Surveillance Activity New Environmental Source Records Inclusion Criteria | The specific criteria for the inclusion of new Environmental Source Records, if any | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordExclusionCriteria | Surveillance Activity New Environmental Source Records Exclusion Criteria | The specific criteria for the exclusion of new Environmental Source Records, if any | String | No |
| SurveillanceActivityNewEnvironmentalSourceRecordCodeStructure | Surveillance Activity New Environmental Source Record Code Structure | Explain the nomenclature of new Environmental Source Record Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Environmental Source in the Surveillance Activity code, and the number is the sequential number of the Environmental Source Record') | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordAbiotic | Surveillance Activity New Environmental Source Record Abiotic | Answer to the question: 'Do new Environmental Source Records of the Surveillance Activity include abiotic tissue?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|--------------------|-----------|
| SurveillanceActivityNewEnvironmentalSourceRecordAbioticTissueType | Surveillance Activity New Environmental Source Record Abiotic Tissue Type | The type of abiotic tissue of the new Environmental Source Records of the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordBiotic | Surveillance Activity New Environmental Source Record Biotic | Answer to the question: 'Do new Environmental Source Records of the Surveillance Activity include Biotic tissue?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordBioticTissueType | Surveillance Activity New Environmental Source Record Biotic Tissue Type | The type of biotic tissue of the new Environmental Source Records of the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordBioticSpecies | Surveillance Activity New Environmental Source Record Biotic Species | Species sourcing the biotic tissue of the new Environmental Sources Records of the Surveillance Activity. It is possible to select high taxonomy levels such as 'Mammalia', 'Chordata', 'Insecta', etc. to indicate that no particular species is targeted or when the species is unknown | Multiple selection | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordSpeciesIdentification | Surveillance Activity New Environmental Source Record Species Identification Method | Answer to the question: 'Are the species sourcing new biotic Environmental Source Records identified'? | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordSpeciesIdentificationMethod | Surveillance Activity New Environmental Source Record Species Identification Method | The methodology used to identify the species sourcing the new biotic Environmental Source Record | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityNewEnvironmentalSourceRecordSpeciesIdentificationMethodReferences | Surveillance Activity New Environmental Source Record Species Identification Method References | The references associated with the methodology used to identify the species sourcing the new biotic Environmental Source Record | String | No |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerSourceKnown | Surveillance Activity Environmental Source Event Number Per Location Known | Answer to the question: 'Is the total number of new Environmental Source Records per Source where new Environmental Source Records are obtained from during the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceRecordsNumberPerSource | Surveillance Activity New Environmental Source Records Number Per Source | The total number of new Environmental Source Records per Source where new Environmental Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityEnvironmentalStoredSpecimen | Surveillance Activity Stored Environmental Source Specimens | Answer to the question: 'Are stored Environmental Sources Specimens of previous Surveillance Activities included in the current Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalStoredSpecimenProjectOrigin | Surveillance Activity Stored Environmental Source Specimens Project Origin | The code of the Projects under which stored Environmental Source Specimens included in the current Surveillance Activity were originated | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityEnvironmentalStoredSpecimenSurveillanceActivity | Surveillance Activity Stored Environmental Source Specimens Surveillance Activity Origin | The code of the Surveillance Activities under which stored Environmental Source Specimens included in the current Surveillance Activity were originated | Multiple selection | Yes |
| SurveillanceActivityNewEnvironmentalSpecimen | Surveillance Activity New Environmental Source Specimens | Answer to the question: 'In the current Surveillance Activity, are new Specimens generated from Environmental Sources?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSpecimenCodeStructure | Surveillance Activity New Environmental Source Specimens Code Structure | Explain the nomenclature of the new Environmental Source Record Specimen Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Environmental Source in the Surveillance Activity code, and the number is the sequential number of the Environmental Source Record and finally a sequential letter for the specimen') | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityNewEnvironmentalSourceSpecimenPerEnvironmentalSourceRecordKnown | Surveillance Activity New Environmental Source Specimens Per Record Known | Answer to the question: 'Is the total number of new Environmental Specimens targeted per Environmental Source Record obtained during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityNewEnvironmentalSourceSpecimenPerEnvironmentalSourceRecord | Surveillance Activity New Environmental Source Specimens Per Record | The total number of Environmental Specimens targeted per Environmental Source Record obtained during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceSpecimenCreationMethod | Surveillance Activity New Specimens Environmental Source Creation Method | Description how new Environmental Specimen are created from the Environmental Source Record | String | Yes |
| SurveillanceActivityNewEnvironmentalSourceSpecimenCreationMethodReferences | Surveillance Activity New Specimens Environmental Source Creation Method References | The references associated with the method to generate new Environmental Specimens from Environmental Source Records | String | No |
| SurveillanceActivityEnvironmentalSourceSpecimenInclusionCriteria | Surveillance Activity Environmental Source Specimens Inclusion Criteria | The specific criteria for the inclusion of Environmental Source Specimens, in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenExclusionCriteria | Surveillance Activity Environmental Source Specimens Exclusion Criteria | The specific criteria for the exclusion of Environmental Source Specimens, in the Surveillance Activity, if any | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|--------------------|-----------|
| SurveillanceActivityNewEnvironmentalSourceSpecimensFieldStorage | Surveillance Activity New Environmental Source Specimens Field Storage | Method to store the new Environmental Source Specimens while in the field under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityNewEnvironmentalSourceSpecimensLabStorage | Surveillance Activity New Environmental Source Specimens Laboratory Storage | Method to store the new Environmental Source Specimens collected in the laboratory under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenPooling | Surveillance Activity Environmental Source Specimen Pooling | Answer to the question: 'Are Environmental Source Specimens included in the current Surveillance Activity pooled?' (for a definition of 'pooling' in the database see the online database manual) | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenPoolingStrategy | Surveillance Activity Environmental Source Specimen Pooling Strategy | Explanation of the method to pool Environmental Source Specimens used in the current Surveillance Activity (for a definition of 'pooling' in the database see the online database manual) | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenHazardType | Surveillance Activity Environmental Source Specimen Targeted Hazard Type | The types of hazards targeted during the Surveillance Activity in Environmental Source Specimens | Multiple selection | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenHazardNames | Surveillance Activity Environmental Source Specimen Targeted Hazard Names | The names of the hazards targeted during the Surveillance Activity in Environmental Source Specimens | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceSpecimenNewDiagnos tics | Surveillance Activity Environmental Source Environmental New Diagnostics | Answer to the question: 'Are new Diagnostics conducted with the Environmental Source Specimens included in the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenNewDiagnos ticsProtocol | Surveillance Activity Environmental Source New Diagnostics Protocol | Description of the Diagnostic protocols conducted with the Environmental Source Specimens included in the Surveillance Activity | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenNewDiagnos ticsProtocolReferences | Surveillance Activity Environmental Source New Diagnostics Protocol References | References associated with the Diagnostic protocols conducted with the Environmental Source Specimens included in the Surveillance Activity | String | No |
| SurveillanceActivityEnvironmentalSourceSpecimenNewDiagnos ticsProducts | Surveillance Activity Environmental Source Specimen New Diagnostic Products | Answer to the question: 'Are new Diagnostic Products created as result of the Diagnostics conducted with the Environmental Source Specimens included in the Surveillance Activity' | Boolean | Yes |
| SurveillanceActivitySourceSpecimenCriteriaPositiveDiagnostic | Surveillance Activity Environmental Source Specimen Criteria Positive Diagnostic | Criteria to establish that each Diagnostic test applied to an Environmental Source Specimen is positive (Diagnostic case definition) | String | Yes |
| SurveillanceActivitySourceSpecimenCriteriaPositiveDiagnosticReferences | Surveillance Activity Environmental Source Specimen Criteria Positive Diagnostic References | References associated with the criteria to establish that each Diagnostic test applied to an Environmental Source Specimen is positive | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceSpecimenCriteriaPositiveCase | Surveillance Activity Environmental Source Specimen Criteria Positive Case | Criteria to establish that a Environmental Source Specimen is positive for each specific hazard targeted in the Surveillance Activity (positive Specimen case definition) | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenCriteriaPositiveCaseReferences | Surveillance Activity Environmental Source Specimen Criteria Positive Case References | References associated with the criteria to establish that an Animal Source Specimen is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| SurveillanceActivityEnvironmentalSourceRecordCriteriaPositiveCase | Surveillance Activity Environmental Source Record Criteria Positive Case | Explain the criteria to establish that an Environmental Source Record is positive for each specific hazard targeted in the Surveillance Activity (positive Environmental SourceRecord case definition) | String | Yes |
| SurveillanceActivityEnvironmentalSourceRecordCriteriaPositiveCaseReferences | Surveillance Activity Environmental Source Record Criteria Positive Case References | References associated with the criteria to establish that an Environmental Source Record is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| SurveillanceActivityEnvironmentalSourceSpecimenDiagnosticInterpretation | Surveillance Activity Environmental Source Specimen Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Environmental Source Specimens Interpreted as part of the Surveillance Activity?' | boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|------------------|-----------|
| SurveillanceActivityEnvironmentalSourceSpecimenDiagnosticInterpretationBy | Surveillance Activity Environmental Source Specimen Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostic conducted in Environmental Source Specimens | Single selection | No |
| SurveillanceActivityEnvironmentalSourceSpecimenInterpretationn | Surveillance Activity Environmental Source Specimen Interpretation | Answer to the question: 'Does the presence of targeted hazards in Environmental Source Specimens receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpecimenInterpretationnBy | Surveillance Activity Environmental Source Specimen Interpretation by | The individual providing the Interpretation of targeted hazards in Environmental Source Specimens | Single selection | No |
| SurveillanceActivityEnvironmentalSourceRecordInterpretation | Surveillance Activity Environmental Source Record Interpretation | Answer to the question: 'Does the presence of targeted hazards in Environmental Source Records receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceRecordInterpretationBy | Surveillance Activity Environmental Source Record Interpretation by | The individual providing the Interpretation of the Environmental Source Records with respect to the presence of targeted hazards | Single selection | No |

Surveillance Activity - Environmental Source Records Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceClustering | Surveillance Activity Environmental Source Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialClustering | Surveillance Activity Environmental Source Spatial Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Environmental Sources represent ponds and ponds are clustered by protected areas | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialNestedClustering | Surveillance Activity Environmental Source Spatial Nested Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity spatially clustered in nested levels?' For example, Environmental Sources are ponds and ponds are clustered by protected areas | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialNumberLevelsNestedClusters | Surveillance Activity Environmental Source Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels grouping Environmental Sources | Integer | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialNestedClusterLevelsRepresent | Surveillance Activity Environmental Source Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster grouping Environmental Sources is. For example, Level 1 are protected areas Level 2 are grid cells within areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Environmental Source Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters grouping Environmental Sources. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |
| SurveillanceActivityEnvironmentalSourcePerSpatialNestedClusterCategoryKnown | Surveillance Activity Environmental Sources Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Environmental Sources per each category within each spatial nested cluster grouping Environmental Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcePerSpatialNestedClusterCategory | Surveillance Activity Environmental Source Per Spatial Nested Cluster Category | Description of the Environmental Sources per each category of nested spatial clusters grouping Environmental Sources. For example, 3 Environmental Sources per grid cell and the total number of grid cells is ten for a total of 30 Environmental Sources | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourcespatialNestedClustersOtherAttributes | Surveillance Activity Environmental Source Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters grouping Environmental Sources contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityEnvironmentalSourcespatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Environmental Source Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters grouping Environmental Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityEnvironmentalSourcespatialNonNestedClustering | Surveillance Activity Environmental Source Spatial Non Nested Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity spatially clustered in non-nested groups?' For example, Environmental Sources are grouped by cities and also by zip codes | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcespatialNumberNonNestedClusters | Surveillance Activity Environmental Source Spatial Number Non Nested Clustering | The number of non-nested spatial clusters grouping Environmental Sources | Integer | Yes |
| SurveillanceActivityEnvironmentalSourcespatialNonNestedClusterRepresent | Surveillance Activity Environmental Source Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster grouping Environmental Sources is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Environmental Source Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster grouping Environmental Sources. For example, cluster 1 contains 20 cells; cluster 2 contains 2 phenological areas | String | Yes |
| SurveillanceActivityEnvironmentalSourcePerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Environmental Source Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Environmental Sources per each category of each spatial non-nested cluster grouping Environmental Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcePerSpatialNonNestedClusterCategory | Surveillance Activity Environmental Source Per Spatial Non Nested Cluster Category | The number of Environmental Sources per each category of each spatial non-nested cluster that are grouping Environmental Sources | String | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialNonNestedClustersOtherAttributes | Surveillance Activity Environmental Source Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters grouping Environmental Sources contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Environmental Source Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters grouping Environmental Sources not included in the data model.
Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityEnvironmentalSourceSpatialClustersFileProvided | Surveillance Activity Environmental Source Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters grouping Environmental Sources and their corresponding categories provided in a file?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceSpatialClustersSpatialProjection | Surveillance Activity Environmental Source Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters grouping Environmental Sources provided in the file | String | No |
| SurveillanceActivityEnvironmentalSourceTemporalClustering | Surveillance Activity Environmental Source Temporal Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Environmental Sources are clustered by decade and month over the years | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceTemporalNestedClustering | Surveillance Activity Environmental Source Temporal Nested Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity temporally clustered in nested levels?' For example, Environmental Sources are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceNumberTemporalNestedClustersLevels | Surveillance Activity Environmental Source Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters grouping Environmental Sources | Integer | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalNestedClustersRepresent | Surveillance Activity Environmental Source Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters grouping Environmental Sources is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalNumberCategoriesPerNestedClusterLevel | Surveillance Activity Environmental Source Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters grouping Environmental Sources. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourcePerTemporalNestedClusterCategoryKnown | Surveillance Activity Environmental Source Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Environmental Sources per each category of each temporal cluster level grouping Environmental Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcePerTemporalNestedClusterCategory | Surveillance Activity Environmental Source per Temporal Nested Cluster Category | Description of the number of Environmental Sources per each category of each temporal cluster level grouping Environmental Sources. For example, 3 Environmental Sources for season 1 that include 3 Environmental Sources during each of the 3 months for a total of 9 Environmental Sources per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalNestedClustersOtherAttributes | Surveillance Activity Environmental Source Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters grouping Environmental Sources contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityEnvironmentalSourceTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Environmental Source Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters grouping Environmental Sources not included in the data model.
Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityEnvironmentalSourceTemporalNonNestedClustering | Surveillance Activity Environmental Source Temporal NonNested Clustering | Answer to the question:'Are Environmental Sources of the Surveillance Activity temporally clustered in non-nested groups?' For example, Environmental Sources are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceNumberTemporalNonNestedClusters | Surveillance Activity Environmental Source Number Temporal NonNested Clusters | The number of temporal non-nested clusters grouping Environmental Sources | Integer | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalNonNestedClustersRepresent | Surveillance Activity Environmental Source Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster grouping Environmental Sources is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Environmental Source Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters grouping Environmental Sources. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |
| SurveillanceActivityEnvironmentalSourcePerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Environmental Source per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Environmental Sources per each category within each temporal non-nested cluster grouping Environmental Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourcePerTemporalNonNestedClusterCategory | Surveillance Activity Environmental Source per Temporal NonNested Cluster Category | Description of the Environmental Sources per each category of the non-nested temporal clusters grouping Environmental Sources. For example, 1 Environmental Source for each date of the year and 365 Environmental Sources per year of the decade | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityEnvironmentalSourceTemporalNonNestedClustersOtherAttributes | Surveillance Activity Environmental Source Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters grouping Environmental Sources contain other properties not included in the data model?' | Boolean | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Environmental Source Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters grouping Environmental Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityEnvironmentalSourceTemporalClustersFileProvided | Surveillance Activity Environmental Source Temporal Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters grouping Environmental Sources and their corresponding categories provided in a file?' | Boolean | Yes |

Surveillance Activity - Arthropod Source

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityArthropodSourceNumber | Surveillance Activity Arthropod Source Number | The full number of Arthropod Sources targeted in the Surveillance Activity | String | Yes |
| SurveillanceActivityNewArthropodSourcesRecordsIncluded | Surveillance Activity New Arthropod Source Records Included | Answer to the question: 'Are new Arthropod Source Records part of the Surveillance Activity (e.g., new collection of data from Arthropod Sources)?' | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceCodeStructure | Surveillance Activity New Arthropod Source Code Structure | Explain the nomenclature of the new Arthropod Source Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, and then the number is the sequential number of the Arthropod Source') | String | Yes |
| SurveillanceActivityArthropodSourceLocationPreviousSurveillanceActivities | Surveillance Activity Arthropod Source Locations in Previous Surveillance Activities | Answer to the question: 'Have any of the Locations where Arthropod Source are placed in the Surveillance Activity been included in previous Suveillance Activities | Boolean | Yes |
| SurveillanceActivityArthropodSourceLocationPreviousProjectCodes | Surveillance Activity Arthropod Source Locations in Previous Project Codes | The codes of previous Projects containing the Locations where Arthropod Source are placed in the current Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityArthropodSourceLocationPreviousSurveillanceActivitiesCodes | Surveillance Activity Arthropod Source Locations in Previous Surveillance Activities | The codes of previous Surveillance Activities containing the Locations where Arthropod Source are placed in the current Surveillance Activities | String | Yes |
| SurveillanceActivityArthropodSourceLocationUnitOfInterest | Surveillance Activity Arthropod Source Location Unit of Interest | Answer to the question: 'Are the Locations where Arthropod Source are placed a unit of interest in the Surveillance Activity (e.g., parcels where water is collected from)?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceLocationDefinition | Surveillance Activity Arthropod Source Location Definition | Description of what the Locations where Arthropod Sources are placed represent (e.g., a parcel, an zone of a protected area, a city, etc.) | String | Yes |
| SurveillanceActivityArthropodSourceLocationList | Surveillance Activity Arthropod Source Location List | A list with the Location names or codes where Arthropod Sources are placed in the Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourceLocationSpatialFileProvided | Surveillance Activity Arthropod Source Location Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Locations where Arthropod Source are placed in the Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceLocationPolygonProjection | Surveillance Activity Arthropod Source Location Polygon Projection | The projection of the spatial data of the Locations in the file provided | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityArthropodSourceLocationOtherAttributes | Surveillance Activity Arthropod Source Location Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of the Locations where Arthropod Sources are placed not included in the the data model?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceLocationListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Location Definition Other Attributes | Description of the other attributes of Locations where Arthropod Sources are placed not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityArthropodSourcePlannedVisitsPerLocation | Surveillance Activity Arthropod Source Planned Visits Per Location | The number of planned visits per Location where Arthropod Source are placed in the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourceEventNumberPerLocationKnown | Surveillance Activity Arthropod Source Event Number Per Location Known | Answer to the question: 'Is the total number of Events per Location where new Arthropod Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceEventNumberPerLocation | Surveillance Activity Arthropod Source Event Number Per Location | The total number of Events per Location where new Arthropod Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityArthropodSourceCollectionNumberPerLocationKnown | Surveillance Activity Arthropod Source Collection Number Per Location Known | Answer to the question: 'Is the total number of Collections per Location where new Arthropod Source Records are obtained from during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceCollectionNumberPerLocation | Surveillance Activity Arthropod Source Collection Number Per Location | the total number of Collections per Location where new Arthropod Source Records are obtained from during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourceNumberPerLocationKnown | Surveillance Activity Arthropod Source Number Per Location Known | Answer to the question: 'Is the total number of Arthropod Source per Location included in the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceNumberPerLocation | Surveillance Activity Arthropod Source Number Per Location | The total number of Arthropod Sources per Location included in the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourceNumberPerVisitPerLocationKnown | Surveillance Activity Arthropod Source Number Per Visit to a Location Known | Answer to the question: 'Is the number of Arthropod Sources to be included per visit to each Location where Arthropod Sources are placed during the Surveillance Activity known?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityArthropodSourcePerVisitPerLocation | Surveillance Activity Arthropod Source Per Visit per Location | The number of Arthropod Sources to be included per visit to each Location where Arthropod Sources are placed during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourceEventDefinition | Surveillance Activity Arthropod Source Event Definition | Description of what the Events where Arthropod Source Records are collected from (e.g., a house, a cave, a tree, etc.) | String | Yes |
| SurveillanceActivityArthropodEventIncludesAnimalSources | Surveillance Activity Event Arthropod Source Includes Animal Sources | Answer to the question: Do Events with Arthropod Source records include Records of Animal Sources? | Boolean | Yes |
| SurveillanceActivityArthropodEventIncludesGroupSources | Surveillance Activity Event Arthropod Source Includes Group Sources | Answer to the question: Do Events with Arthropod Source records include Records of Group Sources? | Boolean | Yes |
| SurveillanceActivityArthropodEventIncludesEnvironmentalSources | Surveillance Activity Event Arthropod Source Event Includes Environmental Sources | Answer to the question: Do Events with Arthropod Source records include Records of Environmental Sources? | Boolean | Yes |
| SurveillanceActivityArthropodEventOtherAttributes | Surveillance Activity Event Arthropod Source Other Attributes | Answer to the question: 'Are there other properties of interest of the Events containing Arthropod Source Records that are not include in the the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|--------------------|-----------|
| SurveillanceActivityArthropodEventListDefinitionOtherAttributes | Surveillance Activity Event Arthropod Source Definition Other Attributes | Description of other attributes of interest for the Events containing Arthropod Source Records not included in the data model?' | String | Yes |
| SurveillanceActivityArthropodSourceCollectionNumberPerEventKnown | Surveillance Activity Arthropod Source Collection Number Per Event Known | Answer to the question: 'Is the total number of Collections targeting Arthropod Sources per Event known?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceCollectionNumberPerEvent | Surveillance Activity Arthropod Source Collection Number Per Event | The total number of Collections targeting Arthropod Sources per Event. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourcePassiveCollection | Surveillance Activity Arthropod Source Passive Collection | Answer to the question:'Are Arthropod Source Records obtained through a passive collection strategy (e.g., citizen reports, information from news outlets)?' | Boolean | Yes |
| SurveillanceActivityArthropodSourcePassiveCollectionTargetedSpecies | Surveillance Activity Arthropod Source Passive Collection Targeted Species | The arthropod species targeted through passive Collection in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourcePassiveCollectionTargetedDevelopmentStage | Surveillance Activity Arthropod Source Passive Collection Targeted Development Stage | The development stage of the arthropod species targeted through passive Collection in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourcePassiveCollectionMethod | Surveillance Activity Arthropod Source Passive Collection Method | Description of the methods to collect arthropods passively during the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| SurveillanceActivityArthropodSourcePassiveCollectionLure | Surveillance Activity Arthropod Source Passive Collection Lure | Answer to the question: 'Any lure used in the passive Collection methods?' | String | Yes |
| SurveillanceActivityArthropodSourcePassiveCollectionLureType | Surveillance Activity Arthropod Source Passive Collection Lure | The types of lure used in the passive Collection methods | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceActiveCollection | Surveillance Activity Arthropod Source Active Collection | Answer to the question:'Are Arthropod Source Records obtained through an active collection strategy (e.g., camera traps, mosquito traps, patrolling, transect, mist nets, observation periods, land exploration, etc.)?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionTargetedSpecies | Surveillance Activity Arthropod Source Active Collection Targeted Species | The arthropod species targeted through active Collection in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionTargetedDevelopmentStage | Surveillance Activity Arthropod Source Active Collection Targeted Development Stage | The development stage of the arthropod species targeted through active Collection in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionMethod | Surveillance Activity Arthropod Source Active Collection Method | Description of the Collection methods used to actively obtain new Arthropod Source Records (e.g., pair of mist nets placed in X for Y hours in S sites every M months under a bat roost and blood samples re collected using ... etc.) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| SurveillanceActivityArthropodSourceActiveCollectionTrapTypes | Surveillance Activity Arthropod Source Active Collection Trap Types | The traps types used to actively collect arthropods in the Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionLure | Surveillance Activity Arthropod Source Active Collection Lure | Answer to the question: 'Any lure used in the active Collection methods?' | String | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionLureType | Surveillance Activity Arthropod Source Active Collection Lure | The types of lure used in the active Collection methods | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceActiveCollectionMethodReferences | Surveillance Activity Arthropod Active Source Collection Method References | Name the references supporting the methods used to actively collect the arthropods | String | No |
| SurveillanceActivityArthropodSourceActiveCollectionMethodExpectedEffort | Surveillance Activity Arthropod Source Active Collection Expected Effort | Expected Effort of the active Collection Methods to obtain Arthropod Source Records | String | Yes |
| SurveillanceActivityArthropodSourceCollectionRecordsOtherSourceType | Surveillance Activity Arthropod Source Collection Records Other Source Types | Answer to the question: 'Do Collections targeting arthropods also target other Source types?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceCollectionOtherAttributes | Surveillance Activity Arthropod Source Collection Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of Collections to obtain Arthropod Source Records not included in the data model?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceCollectionDefinitionOtherAttributes | Surveillance Activity Arthropod Source Collection Definition Other Attributes | Description of other attributes of interest for the Collections targeting Arthropod Source Records not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|------------------|-----------|
| SurveillanceActivityArthropodSourcePreDetermined | Surveillance Activity Arthropod Source PreDetermined | Answer to the question: 'Are the Arthropod Sources to be included in the Surveillance Activity predetermined?' (the opposite option is to determine them opportunistically during a Field Visit) | Single selection | Yes |
| SurveillanceActivityArthropodSourcePreviousSurveillanceActivities | Surveillance Activity Arthropod Source in Previous Surveillance Activities | Answer to the question: 'Have any of the Arthropod Sources of the Surveillance Activity been included in previous Suveillance Activities | Boolean | Yes |
| SurveillanceActivityArthropodSourcePreviousProjectCodes | Surveillance Activity Arthropod Source Previous Project Codes | The codes of previous Projects containing the Arthropod Sources included in the current Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourcePreviousSurveillanceActivitiesCodes | Surveillance Activity Arthropod Source Previous Surveillance Activity Codes | The codes of previous Surveillance Activities containing the Arthropod Sources included in the current Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourceList | Surveillance Activity Arthropod Source List | A list with the names or codes of the Arthropod Source included in the Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourceHowDefined | Surveillance Activity Arthropod Source How Defined | Description of the process to select the Arthropod Sources included in the Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourceIdentificationMethod | Surveillance Activity Arthropod Source Identification Method | The methodology used to identify the Arthropod Sources included in the Surveillance Activity | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityArthropodSourceIdentificationMethodReferences | Surveillance Activity Arthropod Source Identification Method References | References methodology used to identify the Arthropod Sources included in Surveillance Activity | String | No |
| SurveillanceActivityArthropodSourceInclusionCriteria | Surveillance Activity Arthropod Source Inclusion Criteria | The specific criteria to include Arthropod Sources in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityArthropodSourceExclusionCriteria | Surveillance Activity Arthropod Source Exclusion Criteria | The specific criteria to exclude Arthropod Sources from the Surveillance Activity, if any | String | No |
| SurveillanceActivityArthropodSourceFollowedOverTime | Surveillance Activity Arthropod Source Followed Over Time | Answer to the question: 'Are Arthropod Sources followed during the Surveillance Activity and Source Records obtained over time?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceFollowedOverTimeFrequency | Surveillance Activity Arthropod Source Followed Over Time Frequency | Description of the frequency that Arthropod Source will be examined | String | Yes |
| SurveillanceActivityArthropodSourcePlannedVisitsPerSource | Surveillance Activity Arthropod Source Planned Visits Per Source | The number of planned visits per Arthropod Source of the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |
| SurveillanceActivityArthropodSourceOtherAttributes | Surveillance Activity Arthropod Source Other Attributes | Answer to the question: 'Does the Surveillance Activity involve tracking other properties of Arthropod Sources not included in the data model?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Definition Other Attributes | Description of other attributes of interest for the Arthropod Sources not included in the data model?' | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| SurveillanceActivityArthropodSourceSpatialFileProvided | Surveillance Activity Arthropod Source Spatial File Provided | Answer to the question: 'Has a file with the spatial data and other relevant attributes of the Arthropod Sources in the Surveillance Activity been provided?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceProjection | Surveillance Activity Arthropod Source Projection | The projection of the spatial data of the Arthropod Sources in the file provided | String | Yes |
| SurveillanceActivityPreviousArthropodSource | Surveillance Activity Previous Arthropod Source | Answer to the question: 'Are there Arthropod Sources included in the current Surveillance Activities that have been included in previous Surveillance Activities?' | Boolean | Yes |
| SurveillanceActivityPreviousArthropodSourceProjectID | Surveillance Activity Previous Arthropod Source Project ID | The code of the Projects under which Arthropod Sources included in the current Surveillance Activity were previously included | Multiple selection | Yes |
| SurveillanceActivityPreviousArthropodSourceSurveillanceActivityID | Surveillance Activity Previous Arthropod Source SurveillanceActivity ID | The code of the Surveillance Activities under which Arthropod Sources included in the current Surveillance Activity were previously included | Multiple selection | Yes |
| SurveillanceActivityPreviousArthropodSourceInclusionCriteria | Surveillance Activity Previous Arthropod Source Inclusion Criteria | The specific criteria for the inclusion of previous Arthropod Sources, if any | String | Yes |
| SurveillanceActivityPreviousArthropodSourceExclusionCriteria | Surveillance Activity Previous Arthropod Source Exclusion Criteria | The specific criteria for the exclusion of previous Arthropod Sources, if any | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityNewArthropodSourceRecordCodeStructure | Surveillance Activity New Arthropod Source Record Code Structure | Explain the nomenclature of new Arthropod Source Record Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Arthropod Source in the Surveillance Activity code, and the number is the sequential number of the Arthropod Source Record') | String | Yes |
| SurveillanceActivityNewArthropodSourceRecordSpeciesIdentification | Surveillance Activity New Arthropod Source Record Species Identification | Answer to the question: 'Are the Arthropod species in the new Arthropod Source Records identified'? | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceRecordSpeciesIdentificationMethod | Surveillance Activity New Arthropod Source Record Species Identification Method | The methodology used to identify the Arthropod species in the new Arthropod Source Records | String | Yes |
| SurveillanceActivityNewArthropodSourceRecordSpeciesIdentificationMethodReferences | Surveillance Activity New Arthropod Source Record Species Identification Method References | The references associated with the methodology used to identify the Arthropod species in the new Arthropod Source Records | String | No |
| SurveillanceActivityNewArthropodSourceRecordCount | Surveillance Activity New Arthropod Source Record Count | Answer to the question: 'Are the arthropods in the new Arthropod Source Record counted'? | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityNewArthropodSourceRecordCountbySpecies | Surveillance Activity New Arthropod Source Record Count By Species | Answer to the question: 'Are the arthropods in the new Arthropod Source Record counted by species'? | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceRecordCountMethod | Surveillance Activity New Arthropod Source Record Count Method | The methodology used to count the Arthropods in the new Arthropod Source Records | String | Yes |
| SurveillanceActivityNewArthropodSourceRecordCountExact | Surveillance Activity New Arthropod Source Record Count Exact | Answer to the question: 'Is the count of the arthropods in the new Arthropod Source Record exact (e.g., 1,678 mosquitoes)'? | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceRecordCountEstimated | Surveillance Activity New Arthropod Source Record Count Estimated | Answer to the question: 'Is the count of the arthropods in the new Arthropod Source Record estimated (e.g., between 500 - 1000)'? | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceRecordPresenceAbsence | Surveillance Activity New Arthropod Source Record Presence Absence | Answer to the question: 'Are arthropod species in the new Source Records reported as present'? | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceRecordInclusionCriteria | Surveillance Activity New Arthropod Source Record Inclusion Criteria | The specific criteria to include Arthropod Source Records in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityNewArthropodSourceRecordExclusionCriteria | Surveillance Activity New Arthropod Source Record Exclusion Criteria | The specific criteria to exclude Arthropod Source Records from the Surveillance Activity, if any | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------|
| SurveillanceActivityNewArthropodSourceRecordFieldStorage | Surveillance Activity New Arthropod Source Records Field Storage | Method to store the new Arthropod Source Records while in the field under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityNewArthropodSourceRecordLaboratoryStorage | Surveillance Activity New Arthropod Source Records Laboratory Storage | Method to store the new Arthropod Source Records collected in the laboratory under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodStoredSpecimen | Surveillance Activity Stored Arthropod Source Specimens | Answer to the question: 'Are stored Arthropod Sources Specimens of previous Surveillance Activities included in the current Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityArthropodStoredSpecimenProjectOrigin | Surveillance Activity Stored Arthropod Source Specimens Project Origin | The code of the Projects under which stored Arthropod Source Specimens included in the current Surveillance Activity were originated | Multiple selection | Yes |
| SurveillanceActivityArthropodStoredSpecimenSurveillanceActivity | Surveillance Activity Stored Arthropod Source Specimens Surveillance Activity Origin | The code of the Surveillance Activities under which stored Arthropod Source Specimens included in the current Surveillance Activity were originated | Multiple selection | Yes |
| SurveillanceActivityNewArthropodSpecimen | Surveillance Activity New Arthropod Source Specimens | Answer to the question: 'In the current Surveillance Activity, are new Specimens generated from Arthropod Sources?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityNewArthropodSpecimenCodeStructure | Surveillance Activity New Arthropod Source Specimens Code Structure | Explain the nomenclature of the new Arthropod Source Record Specimen Codes of the Surveillance Activity (e.g., 'first letter refers to the pathogen, the next two letters refer to the country, the next letter refers to the taxonomic group, the number is the sequential number of the Arthropod Source in the Surveillance Activity code, and the number is the sequential number of the Arthropod Source Record and finally a sequential letter for the specimen') | String | Yes |
| SurveillanceActivityNewArthropodSourceSpecimenPerArthropodSourceRecordKnown | Surveillance Activity New Arthropod Source Specimens Per Record Known | Answer to the question: 'Is the total number of new Arthropod Specimens per Arthropod Source Record obtained during the Surveillance Activity known?' | Boolean | Yes |
| SurveillanceActivityNewArthropodSourceSpecimenPerArthropodSourceRecord | Surveillance Activity New Arthropod Source Specimens Per Record | The total number of Arthropod Specimens per Arthropod Source Record obtained during the Surveillance Activity. An unknown number, 'at least X', or 'at most X' are accepted responses | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|--------------------|-----------|
| SurveillanceActivityNewArthropodSourceSpecimenNumberArthropods | Surveillance Activity New Arthropod Source Specimens Number Arthropods | The number of arthropods per Arthropod Specimens created during the Surveillance Activity. An unknown number, 'at least X', or 'at most X', and ranges are accepted responses. Describe the number by arthropod species if necessary | String | Yes |
| SurveillanceActivityNewArthropodSourceSpecimenCreationMethod | Surveillance Activity New Specimens Arthropod Source Creation Method | Description how new Arthropod Specimen are created from the Arthropod Source Record | String | Yes |
| SurveillanceActivityNewArthropodSourceSpecimenCreationMethodReferences | Surveillance Activity New Specimens Arthropod Source Creation Method References | The references associated with the method to generate new Arthropod Specimens from Arthropod Source Records | String | No |
| SurveillanceActivityArthropodSourceSpecimenInclusionCriteria | Surveillance Activity Arthropod Source Specimens Inclusion Criteria | The specific criteria for the inclusion of Arthropod Source Specimens, in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityArthropodSourceSpecimenExclusionCriteria | Surveillance Activity Arthropod Source Specimens Exclusion Criteria | The specific criteria for the exclusion of Arthropod Source Specimens, in the Surveillance Activity, if any | String | Yes |
| SurveillanceActivityNewArthropodSourceSpecimenFieldStorage | Surveillance Activity New Arthropod Source Specimens Field Storage | Method to store the new Arthropod Source Specimens while in the field under the current Surveillance Activity | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|--------------------|-----------|
| SurveillanceActivityNewArthropodSourceSpecimenLabStorage | Surveillance Activity New Arthropod Source Specimens Laboratory Storage | Method to store the new Arthropod Source Specimens in the laboratory under the current Surveillance Activity | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceSpecimenPooling | Surveillance Activity Arthropod Source Specimen Pooling | Answer to the question: 'Are Arthropod Source Specimens included in the current Surveillance Activity pooled?' (for a definition of 'pooling' in the database see the online database manual) | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpecimenPoolingStrategy | Surveillance Activity Arthropod Source Specimen Pooling Strategy | Explanation of the method to pool Arthropod Source Specimens used in the current Surveillance Activity (for a definition of 'pooling' in the database see the online database manual) | String | Yes |
| SurveillanceActivityArthropodSourceSpecimenHazardType | Surveillance Activity Arthropod Source Specimen Targeted Hazard Type | The types of hazards targeted during the Surveillance Activity in Arthropod Source Specimens | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceSpecimenHazardNames | Surveillance Activity Arthropod Source Specimen Targeted Hazard Names | The names of the hazards targeted during the Surveillance Activity in Arthropod Source Specimens | Multiple selection | Yes |
| SurveillanceActivityArthropodSourceSpecimenNewDiagnostics | Surveillance Activity Arthropod Source Arthropod New Diagnostics | Answer to the question: 'Are new Diagnostics conducted with the Arthropod Source Specimens included in the Surveillance Activity?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityArthropodSourceSpecimenNewDiagnosticsProtocol | Surveillance Activity Arthropod Source New Diagnostics Protocol | Description of the Diagnostic protocols conducted with the Arthropod Source Specimens included in the Surveillance Activity | String | Yes |
| SurveillanceActivityArthropodSourceSpecimenNewDiagnosticsProtocolReferences | Surveillance Activity Arthropod Source New Diagnostics Protocol References | References associated with the Diagnostic protocols conducted with the Arthropod Source Specimens included in the Surveillance Activity | String | No |
| SurveillanceActivityArthropodSourceSpecimenNewDiagnosticsProducts | Surveillance Activity Arthropod Source Specimen New Diagnostic Products | Answer to the question: 'Are new Diagnostic Products created as result of the Diagnostics conducted with the Arthropod Source Specimens included in the Surveillance Activity | Boolean | Yes |
| SurveillanceActivitySourceSpecimenCriteriaPositiveDiagnostic | Surveillance Activity Arthropod Source Specimen Criteria Positive Diagnostic | Criteria to establish that each Diagnostic test applied to an Arthropod Source Specimen is positive (Diagnostic case definition) | String | Yes |
| SurveillanceActivitySourceSpecimenCriteriaPositiveDiagnosticReferences | Surveillance Activity Arthropod Source Specimen Criteria Positive Diagnostic References | References associated with the criteria to establish that each Diagnostic test applied to an Arthropod Source Specimen is positive | String | No |
| SurveillanceActivityArthropodSourceSpecimenCriteriaPositiveCase | Surveillance Activity Arthropod Source Specimen Criteria Positive Case | Criteria to establish that a Arthropod Source Specimen is positive for each specific hazard targeted in the Surveillance Activity (positive Specimen case definition) | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|------------------|-----------|
| SurveillanceActivityArthropodSourceSpecimenCriteriaPositiveCaseReferences | Surveillance Activity Arthropod Source Specimen Criteria Positive Case References | References associated with the criteria to establish that an Animal Source Specimen is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| SurveillanceActivityArthropodSourceRecordCriteriaPositiveCase | Surveillance Activity Arthropod Source Record Criteria Positive Case | Explain the criteria to establish that an Arthropod Source Record is positive for each specific hazard targeted in the Surveillance Activity (positive Arthropod SourceRecord case definition) | String | Yes |
| SurveillanceActivityArthropodSourceRecordCriteriaPositiveCaseReferences | Surveillance Activity Arthropod Source Record Criteria Positive Case References | References associated with the criteria to establish that an Arthropod Source Record is positive for each specific hazard targeted in the Surveillance Activity | String | No |
| SurveillanceActivityArthropodSourceSpecimenDiagnosticInterpretation | Surveillance Activity Arthropod Source Specimen Diagnostic Interpretation | Answer to the question: 'Are Diagnostics conducted in Arthropod Source Specimens Interpreted as part of the Surveillance Activity?' | boolean | Yes |
| SurveillanceActivityArthropodSourceSpecimenDiagnosticInterpretationBy | Surveillance Activity Arthropod Source Specimen Diagnostic Interpretation by | The individual providing the Interpretation of the Diagnostic conducted in Arthropod Source Specimens | Single selection | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|------------------|-----------|
| SurveillanceActivityArthropodSourceSpecimenInterpretation | Surveillance Activity Arthropod Source Specimen Interpretation | Answer to the question: 'Does the presence of targeted hazards in Arthropod Source Specimens receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpecimenInterpretationBy | Surveillance Activity Arthropod Source Specimen Interpretation by | The individual providing the Interpretation of targeted hazards in Arthropod Source Specimens | Single selection | No |
| SurveillanceActivityArthropodSourceRecordInterpretation | Surveillance Activity Arthropod Source Record Interpretation | Answer to the question: 'Does the presence of targeted hazards in Arthropod Source Records receive an Interpretation as part of the Surveillance Activity?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceRecordInterpretationBy | Surveillance Activity Arthropod Source Record Interpretation by | The individual providing the Interpretation of the Arthropod Source Records with respect to the presence of targeted hazards | Single selection | No |

Surveillance Activity - Arthropod Source Records Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityArthropodSourceClustering | Surveillance Activity Arthropod Source Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpatialClustering | Surveillance Activity Arthropod Source Spatial Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Arthropod Sources represent ponds and ponds are clustered by protected areas | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpatialNestedClustering | Surveillance Activity Arthropod Source Spatial Nested Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity spatially clustered in nested levels?' For example, Arthropod Sources are ponds and ponds are clustered by protected areas | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpatialNumberLevelsNestedClusters | Surveillance Activity Arthropod Source Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels grouping Arthropod Sources | Integer | Yes |
| SurveillanceActivityArthropodSourceSpatialNestedClusterLevelsRepresent | Surveillance Activity Arthropod Source Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster grouping Arthropod Sources is. For example, Level 1 are protected areas Level 2 are grid cells within areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityArthropodSourceSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Arthropod Source Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters grouping Arthropod Sources. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |
| SurveillanceActivityArthropodSourcePerSpatialNestedClusterCategoryKnown | Surveillance Activity Arthropod Sources Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Arthropod Sources per each category within each spatial nested cluster grouping Arthropod Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityArthropodSourcePerSpatialNestedClusterCategory | Surveillance Activity Arthropod Source Per Spatial Nested Cluster Category | Description of the Arthropod Sources per each category of nested spatial clusters grouping Arthropod Sources. For example, 3 Arthropod Sources per grid cell and the total number of grid cells is ten for a total of 30 Arthropod Sources | String | Yes |
| SurveillanceActivityArthropodSourceSpatialNestedClustersOtherAttributes | Surveillance Activity Arthropod Source Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters grouping Arthropod Sources contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityArthropodSourceSpatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters grouping Arthropod Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityArthropodSourceSpatialNonNestedClustering | Surveillance Activity Arthropod Source Spatial Non Nested Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity spatially clustered in non-nested groups?' For example, Arthropod Sources are grouped by cities and also by zip codes | Boolean | Yes |
| SurveillanceActivityArthropodSourceSpatialNumberNonNestedClusters | Surveillance Activity Arthropod Source Spatial Number Non Nested Clustering | The number of non-nested spatial clusters grouping Arthropod Sources | Integer | Yes |
| SurveillanceActivityArthropodSourceSpatialNonNestedClusterRepresent | Surveillance Activity Arthropod Source Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster grouping Arthropod Sources is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |
| SurveillanceActivityArthropodSourceSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Arthropod Source Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster grouping Arthropod Sources. For example, cluster 1 contains 20 cells; cluster 2 contains 2 fenological areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityArthropodSourcePerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Arthropod Source Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Arthropod Sources per each category of each spatial non-nested cluster grouping Arthropod Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityArthropodSourcePerSpatialNonNestedCluster | Surveillance Activity Arthropod Source Per Spatial Non Nested Cluster Category | The number of Arthropod Sources per each category of each spatial non-nested cluster that are grouping Arthropod Sources | String | Yes |
| SurveillanceActivityArthropodSourceSpatialNonNestedClustersOtherAttributes | Surveillance Activity Arthropod Source Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters grouping Arthropod Sources contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityArthropodSourceSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters grouping Arthropod Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityArthropodSourceSpatialClustersFileProvided | Surveillance Activity Arthropod Source Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters grouping Arthropod Sources and their corresponding categories provided in a file?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityArthropodSourceSpatialClustersSpatialProjection | Surveillance Activity Arthropod Source Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters grouping Arthropod Sources provided in the file | String | No |
| SurveillanceActivityArthropodSourceTemporalClustering | Surveillance Activity Arthropod Source Temporal Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Arthropod Sources are clustered by decade and month over the years | Boolean | Yes |
| SurveillanceActivityArthropodSourceTemporalNestedClustering | Surveillance Activity Arthropod Source Temporal Nested Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity temporally clustered in nested levels?' For example, Arthropod Sources are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityArthropodSourceNumberTemporalNestedClustersLevels | Surveillance Activity Arthropod Source Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters grouping Arthropod Sources | Integer | Yes |
| SurveillanceActivityArthropodSourceTemporalNestedClusterLevelsRepresent | Surveillance Activity Arthropod Source Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters grouping Arthropod Sources is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityArthropodSourceTemporalNumberCategoriesPerNestedClusterLevel | Surveillance Activity Arthropod Source Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters grouping Arthropod Sources. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |
| SurveillanceActivityArthropodSourcePerTemporalNestedClusterCategoryKnown | Surveillance Activity Arthropod Source Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Arthropod Sources per each category of each temporal cluster level grouping Arthropod Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityArthropodSourcePerTemporalNestedClusterCategory | Surveillance Activity Arthropod Source per Temporal Nested Cluster Category | Description of the number of Arthropod Sources per each category of each temporal cluster level grouping Arthropod Sources. For example, 3 Arthropod Sources for season 1 that include 3 Arthropod Sources during each of the 3 months for a total of 9 Arthropod Sources per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityArthropodSourceTemporalNestedClustersOtherAttributes | Surveillance Activity Arthropod Source Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters grouping Arthropod Sources contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityArthropodSourceTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters grouping Arthropod Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityArthropodSourceTemporalNonNestedClustering | Surveillance Activity Arthropod Source Temporal NonNested Clustering | Answer to the question:'Are Arthropod Sources of the Surveillance Activity temporally clustered in non-nested groups?' For example, Arthropod Sources are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityArthropodSourceNumberTemporalNonNestedClusters | Surveillance Activity Arthropod Source Number Temporal NonNested Clusters | The number of temporal non-nested clusters grouping Arthropod Sources | Integer | Yes |
| SurveillanceActivityArthropodSourceTemporalNonNestedClustersRepresent | Surveillance Activity Arthropod Source Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster grouping Arthropod Sources is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|--|---------|-----------|
| SurveillanceActivityArthropodSourceTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Arthropod Source Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters grouping Arthropod Sources. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |
| SurveillanceActivityArthropodSourcePerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Arthropod Source per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Arthropod Sources per each category within each temporal non-nested cluster grouping Arthropod Sources known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityArthropodSourcePerTemporalNonNestedClusterCategory | Surveillance Activity Arthropod Source per Temporal NonNested Cluster Category | Description of the Arthropod Sources per each category of the non-nested temporal clusters grouping Arthropod Sources. For example, 1 Arthropod Source for each date of the year and 365 Arthropod Sources per year of the decade | String | No |
| SurveillanceActivityArthropodSourceTemporalNonNestedClustersOtherAttributes | Surveillance Activity Arthropod Source Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters grouping Arthropod Sources contain other properties not included in the data model?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityArthropodSourceTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Arthropod Source Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters grouping Arthropod Sources not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityArthropodSourceTemporalClustersFileProvided | Surveillance Activity Arthropod Source Temporal Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters grouping Arthropod Sources and their corresponding categories provided in a file?' | Boolean | Yes |

Surveillance Activity - Location Clustering

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityLocationClustering | Surveillance Activity Location Clustering | Answer to the question:'Are Locations of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityLocationSpatialClustering | Surveillance Activity Location Spatial Clustering | Answer to the question:'Are Locations of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Locations represent markets and markets are clustered by cities | Boolean | Yes |
| SurveillanceActivityLocationSpatialNestedClustering | Surveillance Activity Location Spatial Nested Clustering | Answer to the question:'Are Locations of the Surveillance Activity spatially clustered in nested levels?' For example, Locations are markets and markets are clustered within cities | Boolean | Yes |
| SurveillanceActivityLocationSpatialNumberLevelsNestedClusters | Surveillance Activity Location Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels grouping Locations | Integer | Yes |
| SurveillanceActivityLocationSpatialNestedClusterLevelsRepresent | Surveillance Activity Location Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster grouping Locations is. For example, Level 1 are areas Level 2 are grid cells within areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityLocationSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Location Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters grouping Locations. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |
| SurveillanceActivityLocationPerSpatialNestedClusterCategoryKnown | Surveillance Activity Locations Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Locations per each category within each spatial nested cluster grouping Locations known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityLocationPerSpatialNestedClusterCategory | Surveillance Activity Location Per Spatial Nested Cluster Category | Description of the Locations per each category of nested spatial clusters grouping Locations. For example, 3 field activities for area 1 that include 3 Locations per grid cell for a total of 9 Locations per grid cell. The time frame between each visit to a grid cell within a single visit to an area is 2 days | String | Yes |
| SurveillanceActivityLocationSpatialNestedClustersOtherAttributes | Surveillance Activity Location Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters grouping Locations contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityLocationSpatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Location Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters grouping Locations not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityLocationSpatialNonNestedClustering | Surveillance Activity Location Spatial Non Nested Clustering | Answer to the question:'Are Locations of the Surveillance Activity spatially clustered in non-nested groups?' For example, Locations represent markets clustered by cities and also by fenology' | Boolean | Yes |
| SurveillanceActivityLocationSpatialNumberNonNestedClusters | Surveillance Activity Location Spatial Number Non Nested Clustering | The number of non-nested spatial clusters grouping Locations | Integer | Yes |
| SurveillanceActivityLocationSpatialNonNestedClusterRepresent | Surveillance Activity Location Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster grouping Locations is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |
| SurveillanceActivityLocationSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Location Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster grouping Locations. For example, cluster 1 contains 20 cells; cluster 2 contains 2 fenological areas | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityLocationPerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Location Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Locations per each category of each spatial non-nested cluster grouping Locations known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityLocationPerSpatialNonNestedClusterCategory | Surveillance Activity Location Per Spatial Non Nested Cluster Category | The number of Locations per each category of each spatial non-nested cluster that are grouping Locations | String | Yes |
| SurveillanceActivityLocationSpatialNonNestedClustersOtherAttributes | Surveillance Activity Location Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters grouping Locations contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityLocationSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Location Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters grouping Locations not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityLocationSpatialClustersFileProvided | Surveillance Activity Location Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters grouping Locations and their corresponding categories provided in a file?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityLocationSpatialClustersSpatialProjection | Surveillance Activity Location Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters grouping Locations provided in the file | String | No |
| SurveillanceActivityLocationTemporalClustering | Surveillance Activity Location Temporal Clustering | Answer to the question:'Are Locations of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Locations are clustered by decade and month over the years | Boolean | Yes |
| SurveillanceActivityLocationTemporalNestedClustering | Surveillance Activity Location Temporal Nested Clustering | Answer to the question:'Are Locations of the Surveillance Activity temporally clustered in nested levels?' For example, Locations are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityLocationNumberTemporalNestedClustersLevels | Surveillance Activity Location Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters grouping Locations | Integer | Yes |
| SurveillanceActivityLocationTemporalNestedClusterLevelsRepresent | Surveillance Activity Location Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters grouping Locations is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityLocationTemporalNumberOfCategoriesPerNestedClusterLevel | Surveillance Activity Location Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters grouping Locations. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |
| SurveillanceActivityLocationPerTemporalNestedClusterCategoryKnown | Surveillance Activity Location Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Locations per each category of each temporal cluster level grouping Locations known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityLocationPerTemporalNestedClusterCategory | Surveillance Activity Location per Temporal Nested Cluster Category | Description of the number of Locations per each category of each temporal cluster level grouping Locations. For example, 3 Locations for season 1 that include 3 Locations during each of the 3 months for a total of 9 Locations per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |
| SurveillanceActivityLocationTemporalNestedClustersOtherAttributes | Surveillance Activity Location Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters grouping Locations contain other properties not included in the data model?' | Boolean | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityLocationTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Location Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters grouping Locations not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityLocationTemporalNonNestedClustering | Surveillance Activity Location Temporal NonNested Clustering | Answer to the question:'Are Locations of the Surveillance Activity temporally clustered in non-nested groups?' For example, Locations are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityLocationNumberTemporalNonNestedClusters | Surveillance Activity Location Number Temporal NonNested Clusters | The number of temporal non-nested clusters grouping Locations | Integer | Yes |
| SurveillanceActivityLocationTemporalNonNestedClustersRepresent | Surveillance Activity Location Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster grouping Locations is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |
| SurveillanceActivityLocationTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Location Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters grouping Locations. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityLocationPerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Location per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Locations per each category within each temporal non-nested cluster grouping Locations known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityLocationPerTemporalNonNestedClusterCategory | Surveillance Activity Location per Temporal NonNested Cluster Category | Description of the Locations per each category of the non-nested temporal clusters grouping Locations. For example, 1 Location for each date of the year and 365 Locations per year of the decade | String | No |
| SurveillanceActivityLocationTemporalNonNestedClustersOtherAttributes | Surveillance Activity Location Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters grouping Locations contain other properties not included in the data model?' | Boolean | Yes |
| SurveillanceActivityLocationTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Location Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters grouping Locations not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityLocationTemporalClustersFileProvided | Surveillance Activity Location Temporal Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters grouping Locations and their corresponding categories provided in a file?' | Boolean | Yes |

Surveillance Activity - Event Clustering

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|---------|-----------|
| SurveillanceActivityEventClustering | Surveillance Activity Event Clustering | Answer to the question:'Are Events of the Surveillance Activity clustered?' | Boolean | Yes |
| SurveillanceActivityEventSpatialClustering | Surveillance Activity Event Spatial Clustering | Answer to the question:'Are Events of the Surveillance Activity spatially clustered (in nested or non-nested clusters)? For example, Events represent traps and traps are clustered by grid cells | Boolean | Yes |
| SurveillanceActivityEventSpatialNestedClustering | Surveillance Activity Event Spatial Nested Clustering | Answer to the question:'Are Events of the Surveillance Activity spatially clustered in nested levels?' For example, Events are traps and traps are clustered within grid cells | Boolean | Yes |
| SurveillanceActivityEventSpatialNumberLevelsNestedClusters | Surveillance Activity Event Spatial Number Levels Nested Clusters | The number of spatial nested cluster levels grouping Events | Integer | Yes |
| SurveillanceActivityEventSpatialNestedClusterLevelsRepresent | Surveillance Activity Event Spatial Nested Clusters Represent | Description of what each level of spatial nested cluster grouping Events is. For example, Level 1 are areas Level 2 are grid cells within areas | String | Yes |
| SurveillanceActivityEventSpatialNumberCategoriesPerNestedClusterLevel | Surveillance Activity Event Spatial Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of nested clusters grouping Events. For example, Level 1 contains 4 areas; in Level 2, area 1 contains 20 grid cells, area 2 contains 15 grid cells, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| SurveillanceActivityEventPerSpatialNestedClusterCategoryKnown | Surveillance Activity Events Per Spatial Nested Cluster Category | Answer to the question: 'Is the number of Events per each category within each spatial nested cluster grouping Events known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEventPerSpatialNestedCategory | Surveillance Activity Event Per Spatial Nested Cluster Category | Description of the Events per each category of nested spatial clusters grouping Events. For example, 3 field activities for area 1 that include 3 Events per grid cell for a total of 9 Events per grid cell. The time frame between each visit to a grid cell within a single visit to an area is 2 days | String | Yes |
| SurveillanceActivityEventSpatialNestedClustersOtherAttributes | Surveillance Activity Event Spatial Nested Clusters Other Attributes | Answer to the question: 'Do spatial nested clusters grouping Events contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityEventSpatialNestedClustersListDefinitionOtherAttributes | Surveillance Activity Event Spatial Nested Clusters Definition Other Attributes | Description of the other attributes of spatial nested clusters grouping Events not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|---------|-----------|
| SurveillanceActivityEventSpatialNonNestedClustering | Surveillance Activity Event Spatial Non Nested Clustering | Answer to the question:'Are Events of the Surveillance Activity spatially clustered in non-nested groups?' For example, Events represent traps clustered by grid cells and also by fenology' | Boolean | Yes |
| SurveillanceActivityEventSpatialNumberNonNestedClusters | Surveillance Activity Event Spatial Number Non Nested Clustering | The number of non-nested spatial clusters grouping Events | Integer | Yes |
| SurveillanceActivityEventSpatialNonNestedClusterRepresent | Surveillance Activity Event Spatial Non Nested Clusters Represent | Description of what each spatial non-nested cluster grouping Events is. For example, cluster 1 are grid cells cluster 2 are fenological areas | String | Yes |
| SurveillanceActivityEventSpatialNumberCategoriesPerNonNestedCluster | Surveillance Activity Event Spatial Number Categories Per Non Nested Cluster | Description of the number of Categories per each non-nested cluster grouping Events. For example, cluster 1 contains 20 cells; cluster 2 contains 2 fenological areas | String | Yes |
| SurveillanceActivityEventPerSpatialNonNestedClusterCategoryKnown | Surveillance Activity Event Per Spatial Number Categories Per Non Nested Cluster | Answer to the question: 'Is the number of Events per each category of each spatial non-nested cluster grouping Events known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|---------|-----------|
| SurveillanceActivityEventPerSpatialNonNestedClusterCategory | Surveillance Activity Event Per Spatial Non Nested Cluster Category | The number of Events per each category of each spatial non-nested cluster that are grouping Events | String | Yes |
| SurveillanceActivityEventSpatialNonNestedClustersOtherAttributes | Surveillance Activity Event Spatial NonNested Clusters Other Attributes | Answer to the question: 'Do spatial non-nested clusters grouping Events contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityEventSpatialNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Event Spatial NonNested Clusters Definition Other Attributes | Description of the other attributes of spatial non-nested clusters grouping Events not included in the data model. Provide a list with the name of the attributes and their definition | String | No |
| SurveillanceActivityEventSpatialClustersFileProvided | Surveillance Activity Event Spatial Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of spatial clusters grouping Events and their corresponding categories provided in a file?' | Boolean | Yes |
| SurveillanceActivityEventSpatialClustersSpatialProjection | Surveillance Activity Event Spatial Clusters Spatial Projection | The spatial projection of the spatial nested and non-nested clusters grouping Events provided in the file | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|---------|-----------|
| SurveillanceActivityEventTemporalClustering | Surveillance Activity Event Temporal Clustering | Answer to the question:'Are Events of the Surveillance Activity temporally clustered (in nested or non-nested clusters)? For example, Events are clustered by decade and month over the years | Boolean | Yes |
| SurveillanceActivityEventTemporalNestedClustering | Surveillance Activity Event Temporal Nested Clustering | Answer to the question:'Are Events of the Surveillance Activity temporally clustered in nested levels?' For example, Events are clustered by month and then months are clustered by year | Boolean | Yes |
| SurveillanceActivityEventNumberTemporalNestedClustersLevels | Surveillance Activity Event Number Temporal Nested Clusters Levels | The number of levels of temporal nested clusters grouping Events | Integer | Yes |
| SurveillanceActivityEventTemporalNestedClusterLevelsRepresent | Surveillance Activity Event Temporal Nested Clusters Represent | Description of what each level of temporal nested clusters grouping Events is. For example, Level 1 are seasons Level 2 are months within seasons | String | Yes |
| SurveillanceActivityEventTemporalNumberCategoriesPerNestedClusterLevel | Surveillance Activity Event Temporal Number Categories Per Nested Cluster Level | Description of the number of Categories per each level of temporal nested clusters grouping Events. For example, Level 1 contains 4 seasons; in Level 2, season 1 contains 3 months, season 2 contains 3 months, etc. | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityEventPerTemporalNestedClusterCategoryKnown | Surveillance Activity Event Per Temporal Nested Cluster Category | Answer to the question: 'Is the number of Events per each category of each temporal cluster level grouping Events known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |
| SurveillanceActivityEventPerTemporalNestedClusterCategory | Surveillance Activity Event per Temporal Nested Cluster Category | Description of the number of Events per each category of each temporal cluster level grouping Events. For example, 3 Events for season 1 that include 3 Events during each of the 3 months for a total of 9 Events per season. The time frame between each visit to a neighbor within a single visit to a city is 2 days | String | Yes |
| SurveillanceActivityEventTemporalNestedClustersOtherAttributes | Surveillance Activity Event Temporal Nested Clusters Other Attributes | Answer to the question: 'Do temporal nested clusters grouping Events contain other properties not included in the data model?' | Boolean | No |
| SurveillanceActivityEventTemporalNestedClustersListDefinitionOtherAttributes | Surveillance Activity Event Temporal Nested Clusters Definition Other Attributes | Description of the other attributes of temporal nested clusters grouping Events not included in the data model. Provide a list with the name of the attributes and their definition | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|---------|-----------|
| SurveillanceActivityEventTemporalNonNestedClustering | Surveillance Activity Event Temporal NonNested Clustering | Answer to the question:'Are Events of the Surveillance Activity temporally clustered in non-nested groups?' For example, Events are clustered by date of the year and also by decade | Boolean | Yes |
| SurveillanceActivityEventNumberTemporalNonNestedClusters | Surveillance Activity Event Number Temporal NonNested Clusters | The number of temporal non-nested clusters grouping Events | Integer | Yes |
| SurveillanceActivityEventTemporalNonNestedClustersRepresent | Surveillance Activity Event Temporal NonNested Clusters Represent | Description of what each temporal non-nested cluster grouping Events is. For example, Cluster 1 are dates of the year and cluster 2 are decades | String | Yes |
| SurveillanceActivityEventTemporalNumberCategoriesPerNonNestedCluster | Surveillance Activity Event Temporal Number Categories Per NonNested Cluster | Description of the number of Categories per each non-nested clusters grouping Events. For example, date of the year contains 365 options; decade contains 10 years, etc. | String | Yes |
| SurveillanceActivityEventPerTemporalNonNestedClusterCategoryKnown | Surveillance Activity Event per Temporal NonNested Cluster Category | Answer to the question: 'Is the number of Events per each category within each temporal non-nested cluster grouping Events known?' The opposite is opportunistic and added as the Surveillance Activity develops | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|---------|-----------|
| SurveillanceActivityEventPerTemporalNonNestedClusterCategory | Surveillance Activity Event per Temporal NonNested Cluster Category | Description of the Events per each category of the non-nested temporal clusters grouping Events. For example, 1 Event for each date of the year and 365 Events per year of the decade | String | No |
| SurveillanceActivityEventTemporalNonNestedClustersOtherAttributes | Surveillance Activity Event Temporal NonNested Clusters Other Attributes | Answer to the question: 'Do temporal non-nested clusters grouping Events contain other properties not included in the data model?' | Boolean | Yes |
| SurveillanceActivityEventTemporalNonNestedClustersListDefinitionOtherAttributes | Surveillance Activity Event Temporal NonNested Clusters Definition Other Attributes | Description of the other attributes of temporal non-nested clusters grouping Events not included in the data model. Provide a list with the name of the attributes and their definition | String | Yes |
| SurveillanceActivityEventTemporalClustersFileProvided | Surveillance Activity Event Temporal Clusters File Provided | Answer to the question: 'Is a file containing the list of nested, non-nested, or both types of temporal clusters grouping Events and their corresponding categories provided in a file?' | Boolean | Yes |

Outbreak

| Variable | Label | Definition | Type | Mandatory |
|-------------------------------|----------------------------------|---|------------------|-----------------|
| OutbreakID | Outbreak Identifier | System-provided Outbreak identifier | Integer | System-assigned |
| OutbreakDetectionDate | Outbreak Detection Date | The Date the first Source Records belonging to the Outbreak were found or reported | Date | Yes |
| OutbreakFirstDayInvestigation | Outbreak First Day Investigation | The first date of the official outbreak investigation. This date can be different from the previous date because the first Spource Records could be found as part of another surveillance activity, such as a ranger patrol. Then, the investigation starts | Date | Yes |
| OutbreakName | Outbreak Name | The name provided to the outbreak | String | Yes |
| LastDayInvestigation | Outbreak First Day Investigation | The last date of the official outbreak investigation | Date | Yes |
| OutbreakDiagnosis | Outbreak Diagnosis | The diagnosis provided to the outbreak. Report the cause of the outbreak | String | No |
| OutbreakDiagnosisBasedOn | Outbreak Diagnosis Based On | The information supporting the diagnosis provided to the outbreak | String | No |
| OutbreakDiagnosisBy | Outbreak Diagnosis Based On | The health, animal, environmental, or another sector of the individual providing the diagnosis of the Outbreak | Single selection | No |
| OutbreakComments | Outbreak Comments | Provide any comments regarding the Outbreak | String | No |

Field Visit

| Variable | Label | Definition | Type | Mandatory |
|----------------------------------|-------------------------------------|---|------------------|-----------------|
| FieldVisitID | Field Visit Identifier | System-provided Field Visit identifier | Integer | System-assigned |
| FieldVisitCode | Field Visit Code | User-provided Field Visit code | String | Yes |
| FieldVisitCrossReferenceID | Field Visit Cross Identifier | The identifier of the Field Visit under another nomenclature system. For example, in a different database or document where other identification for the same Field Visit is used | String | No |
| FieldVisitCrossReferenceIDOrigin | Field Visit Cross Identifier Origin | The location/database/document where other identification for the same Field Visit is used | String | No |
| FieldVisitLeader | Field Visit Leader | The name of the leader of the Field Visit | Single selection | Yes |
| FieldVisitWhere | Field Visit Places Visited | Briefly describe the places to be visited during the Field Visit | String | Yes |
| FieldVisitStartDate | Field Visit Start Date | The date the Field Visit started | Date | Yes |
| FieldVisitEndDate | Field Visit End Date | The date the Field Visit ended or the anticipated ending date | Date | Yes |

Location

| Variable | Label | Definition | Type | Mandatory |
|--------------------------------|----------------------------------|---|--------------------|-----------------|
| LocationID | Location Identifier | System-provided Location identifier | Integer | System-assigned |
| LocationName | Location Code | User-provided Location code | String | Yes |
| Location Polygon ID | Location Polygon Identifier | If a spatial file with the different Locations has been entered in the database, then provide the ID of the polygon representing the Location in such file. This attribute is available only when the spatial file has been entered in the database as reported in the Surveillance Activity metadata | String | No |
| LocationCrossReferenceID | Location Cross Identifier | The identifier of the Location under another nomenclature system. For example, in a different database or document where other identification for the same Location is used | String | No |
| LocationCrossReferenceIDOrigin | Location Cross Identifier Origin | The database/document/other where other identification for the same Location is used | String | No |
| LocationPurpose | Location Purpose | Description of the objectives to accomplish in the Location | String | Yes |
| LocationTargetedSources | Location Targeted Sources | Indicate the type of Sources (Group, Animal, Environmental, or Arthropod) targeted in the Event | Multiple selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---------------------|----------------------|--|------------------|-----------|
| LocationType | Location Type | The type of Location containing Events (e.g., 'market', 'zone in Protected area', 'grid cell', 'parcel', etc') | Single selection | Yes |
| LocationDescription | Location Description | A general description of the Location | String | No |
| LocationEnvironment | Location Environment | Description of the environmental conditions of the Location | String | Yes |
| LocationStartDate | Location Start Date | The date the activities in the Location started | Date | Yes |
| LocationEndDate | Location End Date | The date the activities in the Location ended or the anticipated ending date | Date | Yes |
| LocationComments | Location Comments | Provide any other relevant information regarding the Location | String | No |

Location Clustering

| Variable | Label | Definition | Type | Mandatory |
|---------------------------------------|--|--|------------------|-----------|
| LocationClusterCode | Location Cluster Code | User-provided Location Cluster Code | String | Yes |
| LocationClusterCrossReferenceID | Location Cluster Cross Reference ID | The identifier of a cluster grouping Locations in another system (e.g., database/document/other) | String | No |
| LocationClusterCrossReferenceIDOrigin | Location Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Locations is used | String | No |
| LocationClusterType | Location Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| LocationClusterUnit | Location Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| LocationClusterComments | Location Cluster Comments | Any other comments regarding the Location Source clusters | String | No |

Event

| Variable | Label | Definition | Type | Mandatory |
|-----------------------------|------------------------------------|---|--------------------|-----------------|
| EventID | Event Identifier | System-provided Event identifier | Integer | System-assigned |
| EventCode | Event Code | User-provided Event code | String | Yes |
| EventCrossReferenceID | Event Cross Identifier | The identifier of an Event in another system (e.g., database/document/other) | String | No |
| EventCrossReferenceIDOrigin | Event Cross Identifier Origin | The database/document/other where other identification for the same Event is used | String | No |
| EventType | Event type | The type of Event recorded | Single selection | Yes |
| EventFeatures | Event Features | Specific set of findings at the Event that are dynamic over time (e.g., fire, smoke, etc) | Multiple selection | Yes |
| EventOtherFeatures | Other Event Features | Other findings at the Event that are dynamic over time not listed in the previous attribute | String | No |
| EventBySector | Sector of the Reporter | The sector of the person that reported the Event | Single selection | No |
| EventDate | Event Date | The date and time of the Event | String | Yes |
| EventCoordinatesSource | The Source of the Coordinates Data | The source of the coordinates (longitude and latitude) of the Event | Single selection | Yes |
| EventCoordinateSystem | Event Coordinate System | The coordinate system of the Event longitude and latitude reported | Single selection | Yes |
| EventLongitude | Event Longitude | Longitude coordinate in decimal degrees | Float | Yes |
| EventLatitude | Event Latitude | Latitude coordinate in decimal degrees | Float | Yes |

| Variable | Label | Definition | Type | Mandatory |
|-----------------------------|----------------------------|---|------------------|-----------|
| EventUTMZone | Event UTM Zone | UTM Zone where the Event occurs. It applies if the longitude and latitude of the Event are provided in UTM coordinate reference system. See https://www.dmap.co.uk/utmworld.htm | Single selection | Yes |
| EventUTMEasting | Event UTM Easting | UTM Easting value where the Event occurs | Float | Yes |
| EventUTMNorthing | Event UTM Northing | UTM Northing value where the Event occurs | Float | Yes |
| EventDMSLongitudeDegrees | Event Longitude Degrees | The degree value of the longitude coordinate (absolute value) | Integer | Yes |
| EventDMSLongitudeMinutes | Event Longitude Minutes | The minutes value of the longitude coordinate | Integer | Yes |
| EventDMSLongitudeSeconds | Event Longitude Seconds | The seconds value of the longitude coordinate | Float | Yes |
| EventDMSLongitudeHemisphere | Event Longitude Hemisphere | The eastern or western hemisphere where the Event occurs | Single selection | Yes |
| EventDMSLatitudeDegrees | Event Latitude Degrees | The degree value of the latitude coordinate (absolute value) | Integer | Yes |
| EventDMSLatitudeMinutes | Event Latitude Minutes | The minutes value of the latitude coordinate | Integer | Yes |
| EventDMSLatitudeSeconds | Event Latitude Seconds | The seconds value of the latitude coordinate | Float | Yes |
| EventDMSLatitudeHemisphere | Event Latitude Hemisphere | The northern or southern hemisphere where the Event occurs | Single selection | Yes |
| EventCountry | Event Country | Country where the Event occurs | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--------------------|-------------------------|--|------------------|-----------|
| EventStateProvince | Event State Or Province | State or Province where the Event occurs | Single selection | No |
| EventCounty | Event County | County where the Event occurs | String | No |
| EventComments | Event Comments | Any other comments regarding the Event | String | No |

Event Clustering

| Variable | Label | Definition | Type | Mandatory |
|------------------------------------|---|---|------------------|-----------|
| EventClusterCode | Event Cluster Code | User-provided Event Cluster Code | String | Yes |
| EventClusterCrossReferenceID | Event Cluster Cross Reference ID | The identifier of a cluster grouping Events in another system (e.g., database/document/other) | String | No |
| EventClusterCrossReferenceIDOrigin | Event Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Events is used | String | No |
| EventClusterType | Event Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| EventClusterUnit | Event Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| EventClusterComments | Event Cluster Comments | Any other comments regarding the Event Source clusters | String | No |

Collection

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------------|
| CollectionID | Collection Identifier | System-provided Collection identifier | Integer | System-assigned |
| Collection Passive Active | Collection Passive Active | Answer to the question: 'Is the collection passive or active?' (markets or other facilities where wildlife is already captured does not involve effort) | Boolean | Yes |
| CollectionCode | Collection Code | User-provided Collection code) | Boolean | Yes |
| CollectionCrossReferencelD | Collection Cross Identifier | The identifier of an Collection in another system (e.g., database/document/other) | String | No |
| CollectionCrossReferencelDOrigin | Collection Cross Identifier Origin | The database/document/other where other identification for the same Event is used | String | No |
| CollectionSourceMethod | Collection Source Method | The tools employed in the Collection | Multiple selection | Yes |
| CollectionSourceTarget | Collection Source Target | The types of Sources to obtain through the Collection | Multiple selection | Yes |
| CollectionSpatialEffortUnit | Collection Spatial Effort Unit | The unit to measure the spatial effort associated with the Collection (e.g., CO2 traps, mist nets, km walked, squared kilometers covered, etc.) | Single selection | Yes |
| CollectionSpatialEffortUnitQuantity | Collection Spatial Effort Unit Quantity | The number of units of spatial effort associated with the Collection in the unit reported in the previous attribute | Float | Yes |
| CollectionSpatialEffortExactorEstimated | Collection Spatial Effort Exact or Estimated | Answer to the question: 'Is the spatial effort exact or estimated?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------|
| CollectionSpatialEffortPlacementEvent | Collection Spatial Effort Placement Event | Select the position of the spatial effort with respect to the Event spatial position (e.g., 'At the Event', 'up to the Event') | Single selection | Yes |
| CollectionTemporalEffortUnit | Collection Temporal Effort Unit | The unit to measure the temporal effort associated with the Collection (e.g., night-hours, days, year, etc.) | Single selection | Yes |
| CollectionTemporalEffortUnitQuantity | Collection Temporal Effort Unit Quantity | The number of units of temporal effort associated with the Collection in the unit reported in the previous attribute | Float | Yes |
| CollectionTemporalEffortExactorEstimated | Collection Temporal Effort Exact or Estimated | Answer to the question: 'Is the temporal effort exact or estimated?' | Boolean | Yes |
| CollectionTemporalEffortPlacementEvent | Collection Temporal Effort Placement Event | Select the position of the temporal effort with respect to the Event time stamp (e.g., 'after the Event started') | Single selection | Yes |
| CollectionArthropodActive | Collection Arthropod Active or Passive | Answer to the question: 'Is the Collection of Arthropods active?' (e.g., setting traps or sliding tarps versus pick up by hand) | Single selection | Yes |
| CollectionLureUsed | Collection Lure | Select the lure using to collect Sources, if any | Single selection | Yes |
| CollectionImmobilization | Collection Immobilization | Select the type of immobilization used to obtain Group and Animal Source Records | Single selection | Yes |
| CollectionProblems | Collection Problems | Report any problems occurred during the collection such as torn mist net, broken trap, etc. | String | No |

| Variable | Label | Definition | Type | Mandatory |
|------------------------|--------------------------|---|---------|-----------|
| SourceRecordsCollected | Source Records Collected | Answer to the question: 'Where there any Source Records obtained as result of the Collection?' (Setting a trap is a Collection. That does not mean that any Source was captured at the end of the Collection) | Boolean | No |
| CollectionComments | Collection Comments | Any other comments regarding the Collection | String | No |

Source

| Variable | Label | Definition | Type | Mandatory |
|------------------------------|--------------------------------|---|------------------|-----------------|
| SourceID | Source Identifier | System-provided source identifier | Integer | System-assigned |
| SourceCode | Source Code | User-given Source Code | String | Yes |
| SourceCrossReferenceID | Source Cross Identifier | The identifier of the Source under another nomenclature system. For example, in a different database or document where other identification for the same Source is used | String | No |
| SourceCrossReferenceIDOrigin | Source Cross Identifier Origin | The location/database/document where other identification for the same Source is used | String | No |
| SourceType | Source Type | The type of Source (e.g., 'Group', 'Animal', 'Environmental', 'Arthropod') | Single selection | Yes |
| SourceComments | Source Comments | Any comments regarding the Source | String | No |

Group Source

| Variable | Label | Definition | Type | Mandatory |
|---------------|----------------|--------------------------|------------------|-----------|
| SourceSpecies | Source Species | The Group Source species | Single selection | Yes |

Animal Source

| Variable | Label | Definition | Type | Mandatory |
|------------------------------------|--|--|------------------|-----------|
| SourceSpecies | Animal Source Species | The Animal Source species | Single selection | Yes |
| SourceSex | Source Species Sex | The Source Sex | Single selection | Yes |
| SourcePreviousMarkingCode | Animal Source Previous Marking Code | A known marking code of the Animal Source, if any, before the current marking code, if any | String | No |
| AnimalSourceFromGroupSource | Animal Source From Group Source | Answer to the question: 'Is the Animal Source coming from a Group Source to be now considered as a specific individual?' | Boolean | Yes |
| AnimalSourceFromGroupSourceGroupID | Animal Source From Group Source Group ID | The ID of the Group Source that the Animal Source belonged to | String | Yes |

Source Record

Group Source Record

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|--------------------|-----------|
| GroupAnimalSourceRecordDistanceToSource | Distance to the Group Source Record | In case of transect or similar, this is the distance in any unit from the Event (point in transect) to the Group Source | Numeric | No |
| GroupAnimalSourceRecordDistanceToSourceUnit | Unit of the Distance | The unit for the distance from the Event (point in a transect) to the Group Source (e.g., meters, kilometers) | Single selection | Yes |
| GroupAnimalArthropodSourceRecordSex | Group Source Record Sex of the Animals | A sex category of the animals in the Group Source Record that are also stratified by initial health status and age class | Single selection | Yes |
| GroupAnimalArthropodSourceRecordAge | Group Source Record Age of the Animals | An age category of the animals in the Group Source Record that are also stratified by initial health status and sex class | Single selection | Yes |
| GroupAnimalSourceRecordCaptivityCategory | Group Source Record Captivity Category | The captivity category of the animals in the Group Source Record. Multiple options can be selected | Multiple selection | Yes |
| GroupAnimalSourceRecordNameFacility | Group Source Record Name Facility | The name of the facility where the Group Source is | String | Yes |
| GroupAnimalSourceRecordAdmissiontoFacility | Group Source Record Date Entered to the Facility | The date the Group Source Record entered to the facility. Applies when the Location type is a farm or similar | Date | No |
| GroupAnimalSourceRecordTimeOutNaturalHabitat | Group Source Record Time Out Natural Habitat | The period of time the Group Source has not been on its natural area | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|--------------------|-----------|
| GroupAnimalSourceRecordInPenOrCage | Group Source In Pen or Cage | Answer to the question: 'Is the Group Source in a pen or a cage?' | Boolean | Yes |
| GroupAnimalSourceRecordPenCageIdentifier | Group Source Record Pen Cage Identifier | The identifier of the pen or cage where the Group Source is | String | Yes |
| GroupAnimalSourceRecordAdmissiontoPenCage | Group Source Record Date Entered to the Pen or Cage | The date the Group Source Record entered to the Pen or Cage. Applies when the Location type is a market or similar | Date | No |
| SourceRecordInitialHealthStatus | Group Source Record Initial Health Status | An initial health status category of the animals in the Group Source Record that are also stratified by sex and age class | Single selection | Yes |
| GroupAnimalSourceRecordHealthStatusAssessedBy | Group Source Record Health Status Assessed By | The health, animal, environmental, or another sector of the individual assigning the initial health status | Single selection | Yes |
| GroupAnimalSourceRecordAnomaly | Group Source Record Anomalies | The anomalies detected in the animals of the Group Source Record reported as sick, injured, or dead per sex and age category | Multiple selection | Yes |
| GroupAnimalSourceRecordOtherAnomalies | Group Source Record Other Anomalies | Other anomalies not listed in the previous field in the animals of the Group Source Record reported as sick, injured, or dead per sex and age category | Multiple selection | No |

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|--------------------|-----------|
| GroupAnimalSourceRecordAnomaliesBy | Group Source Record Anomalies By | The health, animal, environmental, or another sector of the individual reporting the anomalies in sick, injured, or dead animals of the Group Source Record. Not available if all animals are healthy | Single selection | Yes |
| GroupAnimalSourceRecordPotentialCauseInjuryDisease | Group Source Record Potential Cause Injury or Disease | The potential causes of injury or disease in the animals of the Group Source Record that are reported as sick or injured per sex and age category | Multiple selection | Yes |
| GroupAnimalSourceRecordPotentialCauseInjuryDiseaseBy | Group Source Record Potential Cause Injury Disease By | The health, animal, environmental, or another sector of the individual reporting the potential cause of injury or disease in sick or injured animals of the Group Source Record. Not available if all animals are healthy or dead | Single selection | Yes |
| GroupAnimalSourceRecordPotentialCauseDeath | Group Source Record Potential Cause Death | The potential causes of death in the animals of the Group Source Record that are reported as dead per sex and age category | Multiple selection | Yes |
| GroupAnimalSourceRecordPotentialCauseDeathBy | Group Source Record Potential Cause Injury Disease By | The health, animal, environmental, or another sector of the individual reporting the potential cause of death in dead animals of the Group Source Record. Not available if no animals are dead | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---------------------------------------|---|---------|-----------|
| GroupArthropodSourceRecordNumberAnimals | Group Source Record Number of Animals | The number animals of the corresponding sex, age, and initial health status category | Integer | Yes |
| GroupArthropodSourceRecordExactNumber | Group Source Record Number is Exact | Answer to the question: 'Is the number of animals reported per sex, age, and initial health status category exact?' | Boolean | Yes |

Group Source Record - Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------|
| GroupSourceRecordClusterCode | Group Source Record Cluster Code | User-provided Group Source Record Cluster Code | String | Yes |
| GroupSourceRecordClusterCrossReferenceID | Group Source Record Cluster Cross Reference ID | The identifier of a cluster grouping Group Source Records in another system (e.g., database/document/other) | String | No |
| GroupSourceRecordClusterCrossReferenceIDOrigin | Group Source Record Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Group Source Records is used | String | No |
| GroupSourceRecordClusterType | Group Source Record Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| GroupSourceRecordClusterUnit | Group Source Record Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| GroupSourceRecordClusterComments | Group Source Record Cluster Comments | Any other comments regarding the Group Source clusters | String | No |

Animal Source Record

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|--------------------|-----------|
| GroupAnimalSourceRecordDistanceToSource | Distance to the Animal Source Record | In case of transect or similar, this is the distance in any unit from the Event (point in transect) to the Animal Source | Numeric | No |
| GroupAnimalSourceRecordDistanceToSourceUnit | Unit of the Distance | The unit for the distance from the Event (point in a transect) to the Animal Source (e.g., meters, kilometers) | Single selection | Yes |
| GroupAnimalArthropodSourceRecordAge | Animal Source Record Age of the Animal | An age category of the Animal Source Record | Single selection | Yes |
| GroupAnimalSourceRecordCaptivityCategory | Animal Source Record Captivity Category | The captivity category of the Animal Source Record | Multiple selection | Yes |
| GroupAnimalSourceRecordNameFacility | Animal Source Record Name Facility | The name of the facility where the Animal Source is | String | Yes |
| GroupAnimalSourceRecordAdmissiontoFacility | Animal Source Record Date Entered to the Facility | The date the Animal Source Record entered to the facility. Applies when the Location type is a farm or similar | Date | No |
| GroupAnimalSourceRecordTimeOutNaturalHabitat | Animal Source Record Time Out Natural Habitat | The period of time the Animal Source has not been on its natural area | String | Yes |
| GroupAnimalSourceRecordInPenOrCage | Animal Source In Pen or Cage | Answer to the question: 'Is the Animal Source in a pen or a cage?' | Boolean | Yes |
| GroupAnimalSourceRecordPenCageIdentifier | Animal Source Record Pen Cage Identifier | The identifier of the pen or cage where the Animal Source is | String | Yes |
| GroupAnimalSourceRecordAdmissiontoPenCage | Animal Source Record Date Entered to the Pen or Cage | The date the Animal Source Record entered to the Pen or Cage. Applies when the Location type is a market or similar | Date | No |

| Variable | Label | Definition | Type | Mandatory |
|--|--|---|--------------------|-----------|
| GroupAnimalSourceRecordInitialHealthStatus | Animal Source Record Initial Health Status | An initial health status category of the Animal Source Record | Single selection | Yes |
| GroupAnimalSourceRecordHealthStatusAssessedBy | Animal Source Record Health Status Assessed By | The health, animal, environmental, or another sector of the individual assigning the initial health status | Single selection | Yes |
| GroupAnimalSourceRecordAnomaly | Animal Source Record Anomalies | The anomalies detected in the Animal Source Record reported as sick, injured, or dead | Multiple selection | Yes |
| GroupAnimalSourceRecordOtherAnomalies | Animal Source Record Other Anomalies | Other anomalies not listed in the previous field in the Animal Source Record reported as sick, injured, or dead | String | No |
| GroupAnimalSourceRecordAnomaliesBy | Animal Source Record Anomalies By | The health, animal, environmental, or another sector of the individual reporting the anomalies in the sick, injured, or dead Animal Source Record. Not available if all Animal Source Record is healthy | Single selection | Yes |
| GroupAnimalSourceRecordPotentialCauseInjuryDisease | Animal Source Record Potential Cause Injury or Disease | The potential causes of injury or disease in the Animal Source Record that is reported as sick or injured | Multiple selection | Yes |
| GroupAnimalSourceRecordPotentialCauseInjuryDiseaseBy | Animal Source Record Potential Cause Injury Disease By | The health, animal, environmental, or another sector of the individual reporting the potential cause of injury or disease in the Animal Source Record. Not available if the Animal Source Record is healthy or dead | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|--------------------|-----------|
| AnimalSourceRecordVaccination | Animal Source Record Vaccination | Answer to the question:'Animal Source vaccinated at time t?' | Boolean | Yes |
| AnimalSourceRecordFinalHealthStatus | Animal Source Record Final Health Status | The health status of the Animal Source Record at the end of the observation | Single selection | Yes |
| AnimalSourceDateOfDeathKnown | Animal Source Record Date of Death Known | Answer to the question: 'Is the Animal Source date of death known?' | Boolean | Yes |
| AnimalSourceDateOfDeath | Animal Source Record Date of Death | The date the Animal Source died | Date | Yes |
| GroupAnimalSourceRecordPotentialCauseDeath | Animal Source Record Potential Cause Death | The potential causes of death of the Animal Source Record | Multiple selection | Yes |
| GroupAnimalSourceRecordPotentialCauseDeathBy | Animal Source Record Potential Cause Injury Disease By | The health, animal, environmental, or another sector of the individual reporting the potential cause of death of the Animal Source Record. Not available if the Animal Source Record is not dead | Single selection | Yes |
| AnimalSourceRecordEuthanasiaMethod | Animal Source Record Euthanasia Method | The euthanasia method used in the Animal Source | Single selection | Yes |
| AnimalSourceRecordCarcassFieldCondition | Animal Source Record Carcass Field Condition | The condition of the Carcass when it was collected at time t | Single selection | Yes |
| AnimalSourceRecordCarcassAction | Animal Source Record Carcass Action | Description of what was done with the Carcass found in the field or captive facility | Single selection | Yes |
| AnimalSourceRecordAnyMarkingCode | Animal Source Record Any Marking Code | Answer to the question: 'Was there any marking in the Animal Source at time t that allowed its individual identification?' | String | No |

| Variable | Label | Definition | Type | Mandatory |
|---|---|---|---------|-----------|
| AnimalSourceRecordMarkingCode | Animal Source Record Marking Code | The marking of the Animal Source at time t | String | Yes |
| AnimalSourceRecordMarkingCodeChange | Animal Source Record Marking Code Change | Answer to the question: 'Was the marking code changed at time t?' | Boolean | No |
| AnimalSourceRecordMarkingCodeChangingReason | Animal Source Record Marking Code Change Reason | Provide an explanation for changing the marking code | String | No |

Animal Source Record - Vaccination

| Variable | Label | Definition | Type | Mandatory |
|---|--|---|--------------------|-----------------|
| AnimalSourceRecordVaccinationID | Animal Source Record Vaccination ID | System-provided Vaccination identifier | Integer | System-assigned |
| AnimalSourceRecordVaccinationCode | Animal Source Record Vaccination Code | User-provided Vaccination code | String | Yes |
| AnimalSourceRecordVaccinationCrossReferenceID | Animal Source Record Vaccination Cross Identifier | The identifier of a Vaccination in another system (e.g., database/document/other) | String | No |
| AnimalSourceRecordVaccinationCrossReferenceIDOrigin | Animal Source Record Vaccination Cross Identifier Origin | The database/document/other where other identification for the same Vaccination is used | String | No |
| AnimalSourceRecordVaccinationVaccineName | Animal Source Record Vaccine Name | The commercial name of the vaccine administered | String | Yes |
| AnimalSourceRecordVaccinationVaccineType | Animal Source Record Vaccine Type | The type of vaccine administered | Single selection | Yes |
| AnimalSourceRecordVaccinationAgainst | Animal Source Record Vaccinated Against | The hazard(s) targeted for protection by the vaccine administered | Multiple selection | Yes |
| AnimalSourceRecordVaccinationVaccineExpirationDate | Animal Source Record Vaccine Expiration Date | The date the administered vaccine expires | Date | Yes |
| AnimalSourceRecordVaccinationVaccineFieldStorage | Animal Source Record Vaccine Field Storage | The method to store the vaccine or keep the cold chain while on the field | Single selection | Yes |
| AnimalSourceRecordVaccinationVaccineDaysStoredField | Animal Source Record Vaccine Days Stored in Field | The number of days the vaccine was stored while on the field before administration | Integer | Yes |
| AnimalSourceRecordVaccinationVaccineColdChainMaintained | Animal Source Record Vaccine in Cold Chain | Answer to the question: 'Was the vaccine maintained in the cold chain before the administration?' | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|---|--|------------------|-----------|
| AnimalSourceRecordVaccinationDate | Animal Source Record Vaccination Date | The date the vaccine was applied | Date | Yes |
| AnimalSourceRecordVaccinationBy | Animal Source Record Vaccination By | The person that administered the vaccine | Single selection | No |
| AnimalSourceRecordVaccinationVaccineDose | Animal Source Record Vaccine Dose | The dose of vaccine administered (amount and unit) | String | Yes |
| AnimalSourceRecordVaccinationVaccineRoute | Animal Source Record Vaccine Route | The route of vaccine administration | Single selection | Yes |
| AnimalSourceRecordVaccinationLocation | Animal Source Record Vaccination Location | The anatomical location where the vaccine was administered | String | No |
| AnimalSourceRecordVaccinationMinutesOfObservationAfterVaccination | Animal Source Record Vaccination Minutes of Observation | Minutes the Animal Source was monitored after being vaccinated at time *t* | Integer | Yes |
| AnimalSourceRecordVaccinationVaccinationReaction | Animal Source Record Vaccination Reaction | Answer to the question: 'Did the vaccination cause any adverse reaction?' | Boolean | Yes |
| AnimalSourceRecordVaccinationVaccinationReactionDescription | Animal Source Record Vaccination Reaction Description | Description of any reaction observed in the Animal Source after vaccinated at time *t* | String | No |
| AnimalSourceRecordVaccinationVaccinationComments | Animal Source Record Vaccination Comments | Comments regarding the vaccination | String | No |

Animal Source Record - Carcass

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|------------------|-----------------|
| AnimalSourceRecord
CarcassID | Carcass Identifier | System-provided
Carcass identifier | Integer | System-assigned |
| AnimalSourceRecord
CarcassCode | Carcass Code | User-given Carcass
Code | String | Yes |
| AnimalSourceRecord
CarcassCrossReferen
ceID | Carcass Cross
Identifier | The identifier of the
Carcass under
another
nomenclature
system. For example,
in a different
database or
document where
other identification
for the same Carcass
is used | String | No |
| AnimalSourceRecord
CarcassCrossReferen
ceIDOrigin | Carcass Cross
Identifier Origin | The
location/database/d
ocument where
other identification
for the same Carcass
is used | String | No |
| AnimalSourceRecord
CarcassNecropsy | Carcass To Necropsy | Answer to the
question: 'Carcass
used for a field,
primary, or
secondary
necropsy?' | Boolean | Yes |
| AnimalSourceRecord
CarcassFieldStorage | Carcass Field Storage | The method to store
the carcass in the
field or captive
facility while in
transit to a proper
facility | Single selection | Yes |
| AnimalSourceRecord
CarcassColdChainMai
ntainedInSitu | Carcass Cold Chain
Maintained In Situ | Answer to the
question: 'Was the
cold chain for the
Carcass maintained
after its collection in
the field or captive
facility until arrival to
the storage facility
(e.g., pathology
laboratory)?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---|--------------------------------|--|------------------|-----------|
| AnimalSourceRecord
CarcassFieldStorageProblems | Carcass Field Storage Problems | Description of any problems faced during the storage of the Carcass while on the field or captive facility | String | No |
| AnimalSourceRecord
CarcassAvailable | Carcass Available | Answer to the question: 'Is the Carcass available for use, necropsy, collection of Specimens, etc.?' | Boolean | Yes |
| AnimalSourceRecord
CarcassReasonNotAvailable | Carcass Reason Not Available | Explanation about why the Carcass is not available | Boolean | Yes |
| AnimalSourceRecord
CarcassOwner | Carcass Owner | The owner of the Carcass | Single selection | Yes |
| AnimalSourceRecord
CarcassComments | Carcass Comments | Any comments regarding the Carcass | String | Yes |

Animal Source Record - Necropsy

| Variable | Label | Definition | Type | Mandatory |
|-------------------------------|---------------------------------------|--|------------------|-----------------|
| NecropsyID | Necropsy Identifier | System-provided necropsy identifier | Integer | System-assigned |
| NecropsyCode | Necropsy Code | User-given Necropsy Code | String | Yes |
| NecropsyCrossRefereeID | Necropsy Cross Identifier | The identifier of a Necropsy in another system (e.g., database/document/other) | String | No |
| NecropsyCrossRefereeIDOrigin | Necropsy Cross Identifier Origin | The database/document/other where other identification for the same Necropsy is used | String | No |
| NecropsyDate | Necropsy Date | The date the Necropsy was conducted | String | Yes |
| NecropsyFieldPrimarySecondary | Field, Primary, or Secondary Necropsy | The necropsy type with respect to where it is conducted | Single selection | Yes |
| NecropsyType | Necropsy Type | The necropsy type with respect to its completeness (e.g., 'Partial necropsy', 'Full necropsy') | Single selection | Yes |
| NecropsyFacility | Necropsy Facility | The facility where the necropsy was conducted | Single selection | Yes |
| NecropsyFacilityID | Necropsy Facility ID | The identifier of the facility where the necropsy was conducted | Single selection | Yes |
| NecropsyBy | Necropsy By | The person who conducted the necropsy | Single selection | Yes |
| NecropsyCarcassCondition | Carcass Condition at Necropsy | The condition of the carcass by the time of the necropsy | Single selection | Yes |
| NecropsyExternalSigns | External Signs | The external signs observed in the Carcass | String | No |
| NecropsyBodyCondition | Body Condition | The body condition observed in the Carcass | Single selection | No |

| Variable | Label | Definition | Type | Mandatory |
|----------------------------------|---------------------------|--|--------|-----------|
| NecropsyEyes | Eyes | Findings in the eyes of the Carcass | String | No |
| NecropsyEars | Ears | Findings in the ears of the Carcass | String | No |
| NecropsyNostrils | Nostrils | Findings in the nostrils of the Carcass | String | No |
| NecropsyMouth | Mouth | Findings in the mouth of the Carcass | String | No |
| NecropsySkin/Hair/
Coat/Nails | Skin, Hair, Coat, Nails | Findings in the skin, hair, coat, or nails of the Carcass | String | No |
| NecropsyWoundsSca
rs | Wounds or Scars | Wounds and scars in the Carcass | String | No |
| NecropsyExternalPar
asites | External Parasites | External parasites on the Carcass | String | No |
| NecropsyInternalPar
asites | Internal Parasites | Internal parasites in the Carcass | String | No |
| NecropsyAnus/
Perineum/Cloaca | Anus, Perineum, or Cloaca | Findings in the anus, perineum, or cloaca of the Carcass | String | No |
| NecropsySubcutaneo
usFat | Subcutaneous Fat | The amount of subcutaneous fat of the Carcass | String | No |
| NecropsyMuscleMas
s | Muscles Mass | The characteristics of the muscle mass of the Carcass | String | No |
| NecropsyMusculoske
letalSyst | Musculoskeletal System | Findings in the musculoskeletal system of the Carcass | String | No |
| NecropsyBodyCaviti
es | Body Cavities | Findings in the body cavities of the Carcass (e.g., 'abdominal', 'thoracic') | String | No |
| NecropsyCardiovascu
larSyst | Cardiovascular System | Findings in the cardiovascular system of the Carcass | String | No |
| NecropsyRespiratory
Syst | Respiratory System | Findings in the respiratory system of the Carcass | String | No |

| Variable | Label | Definition | Type | Mandatory |
|--------------------------------|------------------------------|--|--------------------|-----------|
| NecropsyGastrointestinalSyst | Gastrointestinal System | Findings in the gastrointestinal system of the Carcass | String | No |
| NecropsyUrinarySyst | Urinary System | Findings in the urinary system of the Carcass | String | No |
| NecropsyReproductiveSyst | Reproductive System | Findings in the reproductive system of the Carcass | String | No |
| NecropsyLymphaticSyst | Lymphatic System | Findings in the lymphatic system of the Carcass | String | No |
| NecropsyEndocrineSyst | Endocrine System | Findings in the endocrine system of the Carcass | String | No |
| NecropsyNervousSyst | Nervous System | Findings in the nervous system of the Carcass | String | No |
| NecropsyConclusion | Necropsy Conclusion | The conclusion of the necropsy | String | No |
| NecropsyProblems | Necropsy Problems | Any problems regarding the necropsy | String | No |
| NecropsyComments | Necropsy Comments | Any comments regarding the necropsy | String | No |
| NecropsyNeedsPathologistReview | Needs pathologist review | Answer to the question: 'Does the necropsy need a pathologist review?' | Boolean | Yes |
| NecropsyTopography | Necropsy Findings Topography | The location of the lesions or findings | Multiple selection | No |
| NecropsyTopography | Necropsy Findings Morphology | The pathological aspect of the lesions or findings | Multiple selection | No |
| NecropsyEthiology | Necropsy Findings Ethiology | The suspected or established cause of the lesions or findings | Multiple selection | No |

Animal Source Record - Clustering

| Variable | Label | Definition | Type | Mandatory |
|---|--|--|------------------|-----------|
| AnimalSourceRecordClusterCode | Animal Source Record Cluster Code | User-provided Animal Source Record Cluster Code | String | Yes |
| AnimalSourceRecordClusterCrossReferenceID | Animal Source Record Cluster Cross Reference ID | The identifier of a cluster grouping Animal Source Records in another system (e.g., database/document/other) | String | No |
| animalSourceRecordClusterCrossReferenceIDOrigin | animal Source Record Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Animal Source Records is used | String | No |
| AnimalSourceRecordClusterType | Animal Source Record Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| AnimalSourceRecordClusterUnit | Animal Source Record Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| AnimalSourceRecordClusterComments | Animal Source Record Cluster Comments | Any other comments regarding the Animal Source clusters | String | No |

Environmental Source Record

| Variable | Label | Definition | Type | Mandatory |
|---------------------------------------|---|---|------------------|-----------|
| EnvironmentalSourceRecordType | Environmental Source Record Type | The type of environmental tissue, biotic or abiotic, collected from the environmental source (site) | Single selection | Yes |
| EnvironmentalSourceRecordQuantity | Environmental Source Record Quantity | The amount of environmental tissue, biotic or abiotic, collected from the environmental source (site) | Float | Yes |
| EnvironmentalSourceRecordQuantityUnit | Environmental Source Record Quantity Unit | The unit of measure for the amount of environmental tissue, biotic or abiotic, collected from the environmental source (site) | Single selection | Yes |
| SourceSpecies | Environmental Source Species Origin | The species that sourced a biotic Environmental Source Record. Usually applies for feces. A high level taxonomy can be provided if that is the best choice. For example, 'mammalia' | Single selection | Yes |

Environmental Source Record - Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------|
| EnvironmentalSourceRecordClusterCode | Environmental Source Record Cluster Code | User-provided Environmental Source Record Cluster Code | String | Yes |
| EnvironmentalSourceRecordClusterCrossReferenceID | Environmental Source Record Cluster Cross Reference ID | The identifier of a cluster grouping Environmental Source Records in another system (e.g., database/document/other) | String | No |
| EnvironmentalSourceRecordClusterCrossReferenceIDOrigin | Environmental Source Record Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Environmental Source Records is used | String | No |
| EnvironmentalSourceRecordClusterType | Environmental Source Record Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| EnvironmentalSourceRecordClusterUnit | Environmental Source Record Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| EnvironmentalSourceRecordClusterComments | Environmental Source Record Cluster Comments | Any other comments regarding the Environmental Source clusters | String | No |

Arthropod Source Record

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------|
| SourceSpecies | Arthropod Source Record Species | The arthropod species of the Arthropod Source Record. The arthropods of the Arthropod Source Record (one species) are also stratified by sex, age, and the females, if any, by condition class also | Single selection | Yes |
| ArthropodSourceRecordSpeciesIdentifiedBy | Arthropod Source Record Species Identified By | The person that makes the identification of the arthropod species | Single selection | No |
| SourceRecordAge | Arthropod Source Record Life Stage | A life stage category represented in the arthropods of the Arthropod Source Record. The arthropods of the corresponding species are also stratified by sex and the females, if any, by condition class also | Single selection | Yes |
| SourceSex | Arthropod Source Record Sex | A sex category represented in the arthropods of the Arthropod Source Record. The arthropods of the corresponding species are also stratified by age and the females, if any, by condition class also | Single selection | Yes |
| ArthropodSourceRecordCondition | Arthropod Source Record Condition | A condition category represented in the female arthropods of the Arthropod Source Record. The options include mixed, unfed, bloodfed, and gravid | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---------------------------|--|--|------------------|-----------|
| SourceRecordNumberAnimals | Arthropod Source Record Number of Arthropods | The number of arthropods in the corresponding sex, age, and condition category of the Arthropod Source Record | Integer | Yes |
| SourceRecordExactNumber | Arthropod Source Record Exact Number | Answer to the question: 'Is the number of arthropods reported in the current sex, age, and condition category of the Arthropod Source Record exact?' | Single selection | Yes |

Arthropod Source Record - Clustering

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------|
| ArthropodSourceRecordClusterCode | Arthropod Source Record Cluster Code | User-provided Arthropod Source Record Cluster Code | String | Yes |
| ArthropodSourceRecordClusterCrossReferenceID | Arthropod Source Record Cluster Cross Reference ID | The identifier of a cluster grouping Arthropod Source Records in another system (e.g., database/document/other) | String | No |
| ArthropodSourceRecordClusterCrossReferenceIDOrigin | Arthropod Source Record Cluster Cross Reference ID Origin | The database/document/other where other identification for the same cluster grouping Arthropod Source Records is used | String | No |
| ArthropodSourceRecordClusterType | Arthropod Source Record Cluster Type | The type of cluster (Spatial or Temporal) | Single selection | Yes |
| ArthropodSourceRecordClusterUnit | Arthropod Source Record Cluster Unit | The unit the cluster represents (e.g., a grid cell, a market, etc.) | String | Yes |
| ArthropodSourceRecordClusterComments | Arthropod Source Record Cluster Comments | Any other comments regarding the Arthropod Source clusters | String | No |

Specimen

| Variable | Label | Definition | Type | Mandatory |
|--------------------------------|----------------------------------|---|--------------------|-----------------|
| SpecimenID | Specimen Identifier | System-provided Specimen identifier | Integer | System-assigned |
| SpecimenCode | Specimen Code | User-provided Specimen code | String | Yes |
| SpecimenCrossReferencelD | Specimen Cross Identifier | The identifier of an Specimen in another system (e.g., database/document/other) | String | No |
| SpecimenCrossReferencelDOrigin | Specimen Cross Identifier Origin | The database/document/other where other identification for the same Specimen is used | String | No |
| SpecimenOriginType | Specimen Origin Type | A qualitative definition about the origin of the Specimen. 'Source Record' when the Specimen is coming from a single or multiple Source Records, 'Specimen' when the Specimen is coming from other Specimens including Pooled Specimens, and 'Diagnostic Product' if the Specimen comes from a Diagnostic Product | Multiple Selection | Yes |
| SpecimenOrigin | Specimen Origin | The Codes of the Source Records, Specimens, or Diagnostics involved in the origin of the current Specimen | Multiple Selection | Yes |
| SpecimenTissueType | Specimen Tissue Type | The type(s) of tissue in the Specimen. They include 'arthropod' if they are coming from an Arthropod Source Record and 'mixed' if there are several tissues | Single Selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|-------------------------------|-----------------------------------|--|------------------|-----------|
| SpecimenCreationDate | Specimen Creation Date | The date the Specimen is created | Date | Yes |
| SpecimenOriginalQuantity | Specimen Original Quantity | The original quantity of Specimen by the time it was created (e.g., 2) | Float | Yes |
| SpecimenOriginalQuantityUnit | Specimen Quantity Unit | The unit for the original quantity of the Specimen (e.g., milliliters, swab, mosquitoes) | Single selection | Yes |
| SpecimenMedium | Specimen Medium | The medium in which the Specimen is contained on (e.g. RNA-later) | Single selection | Yes |
| SpecimenMediumQuantity | Specimen Medium Quantity | The medium quantity in which the Specimen is contained on (e.g., 0.5) | Float | Yes |
| SpecimenMediumQuantityUnit | Specimen Medium Quantity Unit | The unit of the medium quantity in which the Specimen is contained on (e.g., milliliters) | Single selection | Yes |
| SpecimenFieldStorage | Specimen Field Storage | The method to store the specimen in the field while in transit to a proper facility | Single selection | Yes |
| SpecimenColdChainMaintained | Specimen Cold Chain Maintained | Answer to the question: 'Was the cold chain maintained during transit from the field to the laboratory?' | Boolean | Yes |
| SpecimenInSituStorageProblems | Specimen In Situ Storage Problems | Description of problems to store the Specimen in the field | String | No |
| SpecimenInContainer | Specimen in Container | Answer to the question: 'Is the Specimen sharing a container, as a jar, with other Specimens?' | Boolean | Yes |

| Variable | Label | Definition | Type | Mandatory |
|----------------------------|-------------------------------|--|------------------|-----------|
| SpecimenContainerType | Specimen Container Type | The type of container the Specimens is sharing with other Specimens | Single selection | No |
| SpecimenContainerID | Specimen Container ID | The identifier of a container (e.g., a jar) where multiple Specimens are maintained together | String | Yes |
| SpecimenAvailable | Specimen Available | Answer to the question: 'Is the Specimen available to be used in Diagnostics or mix other Specimens?' | Boolean | Yes |
| SpecimenReasonNotAvailable | Specimen Reason Not Available | Description of the reason the Specimen is not available to be used in Diagnostics or to be mixed with other Specimens? | String | Yes |
| SpecimenOwner | Specimen Owner | The owner of the Specimen (person or institution) | String | Yes |
| SpecimenComments | Specimen Comments | Any other comments regarding the Specimen | String | No |

Storage

| Variable | Label | Definition | Type | Mandatory |
|----------------------------------|--|--|------------------|-----------|
| StorageChange | Storage Change | Answer to the question: 'Is this storage record a consequence of changes in the storage of the Carcass or Specimen?' | Boolean | Yes |
| StorageChangeDate | Storage Change Date | The date when the storage change occurred. If the change is associated with an Export, then this attribute is the date when the exported material was stored in the new facility | Date | Yes |
| StorageChangeReason | Storage Change Reason | Description of the reason to change the storage of the Carcass or Specimen | String | Yes |
| SpecimenCurrentQuantityStored | Specimen Current Quantity Stored | The quantity of Specimen currently stored (e.g., 0.3) | Float | Yes |
| SpecimenReasonQuantityDifference | Specimen Reason of Quantity Difference | Explanation for the difference between the original Specimen amount and the current Specimen amount stored | String | Yes |
| StorageType | Storage Type | The type of storage of the Carcass or Specimen (e.g., in tank of liquid nitrogen, frozen, etc.) | Single selection | Yes |
| StorageFacilityStorage | Storage Facility | The facility where the Carcass or Specimen is stored | Single selection | Yes |
| StorageFacilityStorageContact | Storage Facility Contact | The person of contact in the facility where the Carcass or Specimen is stored | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|---------------------------|------------------------------|--|---------|-----------|
| StorageBuilding | Storage Building | The specific building within the facility where the Carcass or Specimen is stored | String | No |
| StorageRoom | Storage Room | The specific room within the facility building where the Carcass or Specimen is stored | String | No |
| StorageStorage | Storage Unit | The specific storage unit within the building room building where the Carcass or Specimen is stored (e.g., refrigerator 'X') | String | No |
| StorageShelf | Storage Shelf | The specific shelf within the storage unit where the Carcass or Specimen is stored | String | No |
| StorageRack | Storage Rack | The specific rack within the shelf where the Carcass or Specimen is stored | String | No |
| StorageBox | Storage Box | The specific box within the rack where the Carcass or Specimen is stored | String | No |
| StorageRow | Storage Row | The specific row within the box where the Carcass or Specimen is stored | Integer | No |
| StorageProblemsInFacility | Storage Problems in Facility | Description of any problems regarding the storage of the Carcass or Specimen within the facility | String | Yes |
| StorageComments | Storage Comments | Any other comments regarding the Storage | String | No |

Export

| Variable | Label | Definition | Type | Mandatory |
|------------------------------|--------------------------------|---|--------------------|-----------------|
| ExportID | Export Identifier | System-provided Export identifier | Integer | System-assigned |
| ExportCode | Export Code | User-provided Export code | String | No |
| ExportCrossReferenceID | Export Cross Identifier | The identifier of an Export in another system (e.g., database/document/other) | String | No |
| ExportCrossReferenceIDOrigin | Export Cross Identifier Origin | The database/document/other where other identification for the same Export is used | String | No |
| ExportOrigin | Export Origin | The facility where the Carcass or Specimen depart from | Single selection | Yes |
| ExportPermits | Export Permits | Answer to the question: 'Does the exportation process requires any permit'? | Boolean | Yes |
| ExportQuantity | Export Quantity | The quantity of Carcass or Specimen exported | Float | Yes |
| ExportQuantityUnit | Export Quantity Unit | The unit for the quantity of Carcass or Specimen exported reported | Single selection | Yes |
| ExportDestination | Export Destination | The destination of the Carcass or Specimen | String | Yes |
| ExportDepartureDate | Export Departure Date | The date the Carcass or Specimen leaves the current store location to start the exportation process | Date | Yes |
| ExportStorageMethod | Export Storage Method | The method(s) used to keep the Carcass or Specimen properly maintained | Multiple selection | Yes |
| ExportStatus | Export Status | The current status of the exportation | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|------------------------------|---------------------------------|---|------------------|-----------|
| ExportTransitLocation | Export Transit Location | The current transit location of the exported Carcass or Specimen, if any | String | No |
| ExportTransitLocationContact | Export Transit Location Contact | A contact at the current transit location of the exported Carcass or Specimen | Single selection | No |
| ExportProblems | Export Problems | Description of any problems during the export of the Carcass or Specimen | String | No |
| ExportArrived | Export Arrived | Answer to the question: 'Have the exported Carcass or Specimen arrived to destination?' | Boolean | Yes |
| ExportArrivalDate | Export Arrival Date | The date the Carcass or Specimen arrived to their destination | Date | Yes |
| ExportReceivedBy | Export Received By | The person that receive the Carcass or Specimen at destination | Single Selection | Yes |
| ExportComments | Export Comments | Any other comments regarding the Export | String | No |

Diagnostic

| Variable | Label | Definition | Type | Mandatory |
|---------------------------------------|--|--|------------------|-----------------|
| DiagnosticID | Diagnostic Identifier | System-provided Diagnostic identifier | Integer | System-assigned |
| DiagnosticCode | Diagnostic Code | User-provided Diagnostic code | String | Yes |
| DiagnosticCrossReferencelD | Diagnostic Cross Identifier | The identifier of an Diagnostic in another system (e.g., database/document/other) | String | No |
| DiagnosticCrossReferencelDOrigin | Diagnostic Cross Identifier Origin | The database/document/other where other identification for the same Diagnostic is used | String | No |
| DiagnosticTargetedHazardType | Diagnostic Targeted Hazard Type | The type health hazard targeted by the Diagnostic | Single selection | Yes |
| DiagnosticTargetedHazardName | Diagnostic Targeted Hazard Name | The name of the health hazard targeted by the Diagnostic | Single selection | No |
| DiagnosticType | Diagnostic Type | The type of method used to conduct the Diagnostic (e.g., 'molecular', 'serology', etc) | Single selection | Yes |
| DiagnosticMethod | Diagnostic Method | The method used to conduct the Diagnostic (e.g., 'agglutination', 'PCR', etc) | Single selection | Yes |
| DiagnosticName | Diagnostic Name | The name of the Diagnostic method | Single selection | Yes |
| DiagnosticMeasurementQuantitative | Diagnostic Measurement Quantitative | Answer to the question: 'Does the Diagnostic method provide a quantitative result?' | Boolean | Yes |
| DiagnosticMeasurementQuantitativeUnit | Diagnostic Measurement Quantitative Unit | The quantitative unit used to report the results of the Diagnostic | Single selection | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--------------------------------------|---|--|------------------|-----------|
| DiagnosticMeasurementQualitativeUnit | Diagnostic Measurement Qualitative Unit | The qualitative unit used to report the results of the Diagnostic | Single selection | Yes |
| DiagnosticRunInField | Diagnostic Run in the Field | Answer to the question: 'Is the Diagnostic run in the field?' | Boolean | Yes |
| DiagnosticRequestedBy | Diagnostic Requested By | The person requesting the Diagnostic | Single selection | No |
| LaboratoryName | Laboratory Name | The name of the Laboratory where the Diagnostic is completed | Single Selection | Yes |
| DiagnosticDateSentForTesting | Date Sent for Testing | The date the Animal Source, Carcass, or Specimen was sent to the Laboratory to be tested | Date | Yes |
| DiagnosticDateReceivedForTesting | Date Received for Testing | The date the Animal Source, Carcass, or Specimen was received in the Laboratory | Date | No |
| DiagnosticDate | Date Diagnostic Conducted | The date the Dieagnostics is conducted | Date | No |
| DiagnosticBy | Diagnostic By | The person that conducted the Diagnostic | Single selection | No |
| DiagnosticResultsReceived | Diagnostic Results Received | Answer to the question: 'Were the Diagnostic results received?' | Boolean | Yes |
| DiagnosticDateResultsReceived | Date Results Received | The date the Diagnostic results were received by the requester | Date | No |
| DiagnosticResultQuantitative | Diagnostic Result | The result of the diagnostic on quantitative units | Float | Yes |
| DiagnosticResultQualitative | Diagnostic Result | The result of the diagnostic on qualitative units | String | Yes |

| Variable | Label | Definition | Type | Mandatory |
|--------------------------------------|---|--|---------|-----------|
| DiagnosticResultModified | Diagnostic Result Modified | Answer to the question:'Have the Diagnostic results been modified?' | Boolean | Yes |
| DiagnosticDateResultModified | Date Diagnostic Result modified | The date when the Diagnostic result was modified | Date | Yes |
| DiagnosticReasonResultModified | Reason Diagnostic Result modified | Description of the reason the Diagnostic result was modified | String | Yes |
| DiagnosticPreviousResultQuantitative | Diagnostic Previous Result Quantitative | The Diagnostic quantitative result before modification | String | No |
| DiagnosticPreviousResultQualitative | Diagnostic Previous Result Qualitative | The Diagnostic quantitative result before modification | String | No |
| DiagnosticProblems | Diagnostic Problems | Description of any problems regarding the Diagnostic | String | No |
| DiagnosticIsRepetition | Diagnostic Is a Repetition | Answer to the question: 'Is the Diagnostic a repetition of another Diagnostic' | Boolean | Yes |
| DiagnosticReasonRepeated | Diagnostic Reason Repetition | Description of the reason the Diagnostic is repeated | String | Yes |
| DiagnosticComments | Diagnostic Comments | Any comments regarding the Diagnostic | String | No |
| DiagnosticInterpreted | Diagnostic Interpreted | Answner to the quessimton: 'In the diagnostic interpreted?' | Boolean | Yes |

Diagnostic Product

| Variable | Label | Definition | Type | Mandatory |
|-----------------------|-------------------------------|---|------------------|-----------------|
| DiagnosticProductID | Diagnostic Product Identifier | System-provided Diagnostic Product identifier | Integer | System-assigned |
| DiagnosticProductType | Diagnostic Product Type | The type of Diagnostic Product (e.g., 'cDNA') | Single selection | Yes |

Laboratory

| Variable | Label | Definition | Type | Mandatory |
|-----------------------------------|------------------------------------|---|--------------------|-----------------|
| LaboratoryID | Laboratory Identifier | System-provided Project identifier | Integer | System-assigned |
| Laboratory Name | Laboratory Name | The name of the Laboratory | String | Yes |
| LaboratoryCrossReferenceID | Laboratory Cross Identifier | The identifier of the Laboratory under another nomenclature system. For example, in a different database or document where other identification for the same Laboratory is used | String | No |
| LaboratoryCrossReferenceIDOrigin | Laboratory Cross Identifier Origin | The location/database/document where other identification for the same Laboratory is used | String | No |
| LaboratoryCountry | Laboratory Country | The country where the Laboratory is located | String | No |
| LaboratoryAddress | Laboratory Address | The address of the Laboratory | String | No |
| LaboratoryPhone | Laboratory Phone | The phone number of the Laboratory | String | Yes |
| LaboratoryEmail | Laboratory Email | The email address of the Laboratory | String | No |
| LaboratoryManager | Laboratory Manager | The manager of the Laboratory | String | No |
| LaboratoryManagerEmail | Laboratory Manager Email | The email address of the manager of the Laboratory | String | No |
| LaboratoryPointContactName | Laboratory Contact Name | The name of the best contact point for the Laboratory | Multiple selection | Yes |
| LaboratoryPointContactEmail | Laboratory Contact Email | The email address of the best contact point for the Laboratory | String | Yes |
| LaboratoryPointContactAffiliation | Laboratory Contact Affiliation | The affiliation of the best contact point for the Laboratory | String | No |

| Variable | Label | Definition | Type | Mandatory |
|-------------------------------------|------------------------------------|--|--------------------|-----------|
| LaboratoryDiagnosticMethodAvailable | Laboratory Diagnostics Available | The diagnostic methods available in the Laboratory | Multiple selection | Yes |
| LaboratoryMaxBiosafetyLevel | Laboratory Maximum biosafety level | The maximum biosafety level available in the Laboratory | Single selection | Yes |
| LaboratoryCertification | Laboratory Certification | The certifications accomplished by the Laboratory | Multiple selection | Yes |
| LaboratoryStorageCapacity | Laboratory Storage Capacity | The capacity of the Laboratory to store Specimens and Carcasses | String | Yes |
| LaboratoryDataManagementSystem | Laboratory Data Information System | The information system used in the Laboratory to manage and track Diagnostic information | String | Yes |

Interpretation

Diagnostic Interpretation

| Variable | Label | Definition | Type | Mandatory |
|----------------------------------|-------------------------------------|---|------------------|-----------|
| DiagnosticInterpretation | Diagnostic Interpretation | The Interpretation of the diagnostic based on its results | Single selection | Yes |
| DiagnosticInterpretationDate | Diagnostic Interpretation Date | The date of the Diagnostic Interpretation | Date | No |
| DiagnosticInterpretationBy | Diagnostic Interpretation By | The person that made the Interpretation | Single selection | Yes |
| DiagnosticInterpretationBySector | Diagnostic Interpretation By Sector | The environmental, animal, or human health sector affiliation of the individual that made the Diagnostic Interpretation | Single selection | No |
| DiagnosticInterpretationComments | Diagnostic Interpretation Comments | Comments regarding the Diagnostic Interpretation | String | No |

Specimen Interpretation

| Variable | Label | Definition | Type | Mandatory |
|--|---|---|------------------|-----------------|
| SpecimenInterpretationID | Specimen Interpretation ID | System-provided Specimen Interpretation identifier | Integer | System-assigned |
| SpecimenInterpretationTargetedHazardType | Specimen Interpretation Targeted Hazard Type | The hazard type to be Interpreted with respect to its presence in the current Specimen | Single selection | Yes |
| SpecimenInterpretationTargetedHazardTypeName | Specimen Interpretation Targeted Hazard Type Name | The name of the hazard to be Interpreted with respect to its presence in the current Specimen | Single selection | Yes |
| SpecimenInterpretationConclusion | Specimen Interpretation Conclusion | The final Interpretation of the status of the targeted hazard in the Specimen based on the results of the corresponding Diagnostics | String | Yes |
| SpecimenInterpretationDate | Specimen Interpretation Date | The date of the Interpretation | Date | No |
| SpecimenInterpretationBy | Specimen Interpretation By | The person that made the Interpretation | Single selection | Yes |
| SpecimenInterpretationBySector | Specimen Interpretation By Sector | The environmental, animal, or human health sector affiliation of the individual that made the Specimen Interpretation | Single selection | No |
| SpecimenInterpretationBasedOn | Specimen Interpretation Based On | Description of the arguments leading to the Specimen Interpretation | String | Yes |
| SpecimenInterpretationComments | Specimen Interpretation Comments | Comments regarding the Specimen Interpretation | String | No |

Source Record Interpretation

| Variable | Label | Definition | Type | Mandatory |
|--|--|--|------------------|-----------------|
| SourceRecordInterpretationID | Source Record Interpretation ID | System-provided Source Record Interpretation identifier | Integer | System-assigned |
| SourceRecordInterpretationTargetedHazardTypeID | Source Record Interpretation Targeted Hazard Type | The hazard type to be Interpreted with respect to its presence in the current Source Record | Single selection | Yes |
| SourceRecordInterpretationTargetedHazardTypeName | Source Record Interpretation Targeted Hazard Type Name | The name of the hazard to be Interpreted with respect to its presence in the current Source Record | Single selection | Yes |
| SourceRecordInterpretationConclusion | Source Record Interpretation Conclusion | The final Interpretation of the status of the targeted hazard in the Source Record based on the results of the corresponding Diagnostics, Necropsy, and field findings | String | Yes |
| SourceRecordInterpretationDate | Source Record Interpretation Date | The date of the Interpretation | Date | No |
| SourceRecordInterpretationBy | Source Record Interpretation By | The person that made the Interpretation | Single selection | Yes |
| SourceRecordInterpretationBySector | Source Record Interpretation By Sector | The environmental, animal, or human health sector affiliation of the individual that made the Source Record Interpretation | Single selection | No |
| SourceRecordInterpretationBasedOn | Source Record Interpretation Based On | Description of the arguments leading to the Source Record Interpretation | String | Yes |
| SourceRecordInterpretationComments | Source Record Interpretation Comments | Comments regarding the Source Record Interpretation | String | No |

WHe-DB Manual

Under construction

Appendices

Summary of fields and tables whose availability is conditional on other fields of the database

| If field | In table | equals | and | then | of type | in table | outcome | for |
|----------------------------|----------|-------------|-----|---|---------|----------|---------------|----------------|
| ProjectAnimalSource | Project | FALSE or NA | NA | SurveillanceActivityAnimalSource | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | AnimalSourceClusters | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | AnimalSource | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | AnimalSourceRecord | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | Necropsy | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | Carcass | table | NA | not available | entire project |
| ProjectAnimalSource | Project | FALSE or NA | NA | AnimalSourceSpecimen | table | NA | not available | entire project |
| ProjectGroupSource | Project | FALSE or NA | NA | SurveillanceActivityGroupSource | table | NA | not available | entire project |
| ProjectGroupSource | Project | FALSE or NA | NA | GroupSourceClusters | table | NA | not available | entire project |
| ProjectGroupSource | Project | FALSE or NA | NA | GroupSource | table | NA | not available | entire project |
| ProjectGroupSource | Project | FALSE or NA | NA | GroupSourceRecord | table | NA | not available | entire project |
| ProjectGroupSource | Project | FALSE or NA | NA | GroupSourceSpecimen | table | NA | not available | entire project |
| ProjectEnvironmentalSource | Project | FALSE or NA | NA | SurveillanceActivityEnvironmentalSource | table | NA | not available | entire project |
| ProjectEnvironmentalSource | Project | FALSE or NA | NA | EnvironmentalSourceClusters | table | NA | not available | entire project |
| ProjectEnvironmentalSource | Project | FALSE or NA | NA | EnvironmentalSource | table | NA | not available | entire project |
| ProjectEnvironmentalSource | Project | FALSE or NA | NA | EnvironmentalSourceRecord | table | NA | not available | entire project |

| If field | In table | equals | and | then | of type | in table | outcome | for |
|--|----------|----------------------------------|----------------|-------------------------------------|---------|----------|---------------|----------------|
| ProjectEnvironmental Source | Project | FALSE or NA | NA | EnvironmentalSource Specimen | table | NA | not available | entire project |
| ProjectArthropodSource | Project | FALSE or NA | NA | SurveillanceActivityArthropodSource | table | NA | not available | entire project |
| ProjectArthropodSource | Project | FALSE or NA | NA | Arthropod SourceClusters | table | NA | not available | entire project |
| ProjectArthropodSource | Project | FALSE or NA | NA | Arthropod Source | table | NA | not available | entire project |
| ProjectArthropodSource | Project | FALSE or NA | NA | Arthropod SourceRecord | table | NA | not available | entire project |
| ProjectArthropodSource | Project | FALSE or NA | NA | Arthropod SourceSpecimen | table | NA | not available | entire project |
| ProjectAnimalSource
ProjectGroupSource
ProjectEnvironmental Source
ProjectArthropodSource | Project | FALSE
FALSE
FALSE
FALSE | and and
and | Source | table | NA | not available | entire project |