The Benefits of Using ZIMS

(Reading time: Approx. 30 min)

SPECIES 360

Global information serving conservation.

ZIMS (Zoological Information Management System) is an application that collects global data on zoo and aquarium animal collections. Much of this data is shared globally for the benefit of all Species360 members. There are three modules contained in the ZIMS application. In addition, there are global resources that use the data recorded by our members.

- [Animal Management and Husbandry](#)

- [Medical](#)

- [Studbook](#)

- [Global Resources](#)

The following is a brief overview of the type of data that is contained in these modules and the benefits you will receive from them when you use ZIMS. Not all data fields available in the ZIMS application are covered here but the main ones are highlighted. The benefits of each topic is noted in **bold** type.

ANIMAL MANAGEMENT and HUSBANDRY

The Husbandry module contains the information on your inventory, animals, enclosures and your institution.

Animals

Searches – There are many options for searching for animals in ZIMS and what search you select to use will depend on what you are looking for. You can search for the animals your institution has held or owned (Local) or you can search in the entire ZIMS database (Global). **A Global search allows animal managers to view information on animals outside their local institution. It can help them find institutions whose staff may possess experience or husbandry knowledge they are looking for.**

My Transactions – This is where you record acquiring and dispositioning animals. It is a quick view of all the transactions that your institution has had regarding the animal. If the transaction is with another ZIMS institution a pending transaction is created here. **You can accept this transaction without having to re-enter most of**

the information regarding the animal, saving considerable time and reducing data entry errors.

Physical Holder History – Where My Transactions only displays transactions with your institution, Physical Holder History displays all institutions that have physically held the animal. **This lets you know who to contact should you have questions about the history of the animal such as how best to give a medication or how to handle an unexpected behavior.**

Measurements – You can record the weights and lengths of your animals. This information is important for monitoring growth and general health of your animals. **These measurements can be displayed in graph form making it easy to spot gains and losses and even incorrect units of measurement.**

Enclosures – This is where you track what enclosures the animal has occupied. **This provides important information such as determining possible exposure to disease or helping you identify the parents of an animal.**

Parent Information – Obviously parentage is very important for population management. However, there may be times when you may not be able to identify a parent without a doubt. **ZIMS allows you to record multiple parents and the percentage that it is likely to be the parent so you do not create fiction by guessing.**

Training Information – Training is often required for improved husbandry and medical care. Here you define the behavior you are training and assign it to an animal. Once assigned you can track your training sessions and the status of the training. **You can easily compare training success for the same behavior in different animals so you can adjust your training approach.**

Feed Logs – The Feed Log is an easy to use grid where you can record multiple items fed, the amounts fed and the amounts consumed or left. The Total Offered and Total Consumed as well as the Total Energy Content can be calculated by ZIMS. **Combining Feed Logs with reviewing changes in measurements can be a valuable husbandry tool to determine overall health of your animals. And it is especially helpful for tracking hand-rearing.**

Enrichment – Many Regional Associations are requiring that enrichment be documented in their accreditation process. In ZIMS you record an Enrichment Item and assign it to an animal. You can then record how the enrichment sessions went and the animal's response to it to help you develop a successful enrichment program. **The many filters in the enrichment search functionality lets animal managers track that successful enrichment is being provided.**

Permits – Many animals require permits, some at the international and some at the local level. You can record your permits in ZIMS (see Institution below) and assign them to your animals for easy tracking of these requirements. **ZIMS helps your institution meet legal requirements and recording the appropriate permit within the animal record is an easy method to do so.**

Enclosures

Aquarist Daily Log – This log allows you to create a template for tracking your daily work load such as taking environmental or water quality measurements, feeding tanks and performing maintenance. Although designed with aquariums in mind it is equally useful for zoos such as reptile houses. **This log helps save time and confirms that all daily tasks are completed.**

Occupants – ZIMS will track what animals have been held in each enclosure. The default list is the current occupants but there is a search filter where you can find occupants during a specific date range. **This is a great help to determine what species have been successful in the enclosure or what animals were there during an event such as a hurricane or flood.**

Planned Taxa - In ZIMS you can record your future plans for the enclosure, indicating species and year you wish to acquire. **This can help with your collection planning as a report for your entire institution can be run from this data.**

Measurements – You can record your Environmental and Water Quality measurements on each enclosure. You can set the desired ranges for all your measurements in ZIMS. If a measurement is outside the desired range you will be given an instant message when you record the data and you can set up email notification of appropriate staff members so actions can be taken to ensure the health of the enclosure occupants. These measurements can also be presented in a graphic

form. **The health of your animals can depend on keeping these measurements within your specified parameters.**

Maintenance – You can track maintenance performed on an enclosure. **Sometimes this maintenance affects the occupants and there is a checkbox where the maintenance record can also be added directly to the animal record.**

Enclosure Treatment – For aquatic enclosures there is often treatment required to maintain the water quality or because of a medical condition of the occupants. Once an enclosure treatment is recorded in the medical module you can record that treatment, and any subsequent actions taken, in the enclosure record itself. **Reviewing the enclosure treatment record can identify possible problems within an enclosure/tank.**

Dimensions/Plants/Substrates/Furniture/Barriers – You also have the ability to record the size of the enclosure and its containment features, what the barriers are made up of, any furniture provided for the occupants and plants and substrates. **This information can be helpful for planning new exhibits for the species as well as helping to identify the source of some medical problems such as lameness due to the substrate. It is also helpful for completing permit and license applications where you need to describe the enclosures as this information can be exported into a report format.**

My Institution

Institution Profile – This is information about your facility including contact information and website. **This information can be viewed by others searching for your facility and helps your colleagues contact you or find your website.**

Staff – Your staff can be tracked in ZIMS. You can record job type, employment dates and if they are ZIMS users. If they are checked as a Public Contact your colleagues can find them and contact them. **This is especially helpful for veterinarians and curators looking for information.**

Roles – ZIMS access is determined by what Role you are given. There are some Species360 Template Roles but you can also create specific Roles for your institution and assign them to staff members. For example, you could create a Role for Horticulture that has access only to enclosure plants and maintenance. Or you

could create a keeper Role that has access only to enter notes & observations, measurements and identifiers for your animals. **Roles means that you can give only the access desired and opens up ZIMS to your entire staff.**

Permits – As mentioned under Animals you can track your permits in ZIMS. This is especially useful for running a report on what permits are due to expire within a certain time frame. Permits can be assigned to institutions, staff members, enclosures and specific animals. **This grid helps your institution maintain legal transactions.**

Species Wanted – If you are looking to acquire a specific species you can record it in Species Wanted. **This is displayed globally so others can see what you are looking for and contact you should they have that species available.**

Animals Available – The reverse of Species Wanted is Animals Available. Here you will list specific animals that you wish to place elsewhere including the terms, when it is available and the transfer level (country, regional or global). **If another institution is looking to acquire that species there is a hyperlink into the global record where they can view it and decide if this is an animal they are interested in and contact you.**

External Sharing – Other institutions can view some of the information you have recorded on an animal and this is called the Global view. ZIMS institutions have the option to share almost the entire record of an animal with another institution via External Sharing. **This is very helpful if you are thinking about acquiring the animal as well as an easy way to stay up-to-date on the animals that you have out on loan.**

My Calendar

My Calendar allows you to schedule alerts and tasks such as upcoming medical procedures, enclosure maintenance and enrichment sessions. Once a task is completed it can be marked as done. **The ability to view a Calendar for tasks across the entire institution, or just for a single person, is a great help to more successful communication and to keep animal managers informed.**

MEDICAL

The Medical module works off of the animal data entered into the Husbandry module and allows veterinarians to manage the health care and treatment of your collection.

The benefits of all of these topics available in ZIMS are improved tracking of medical concerns, treatments and results.

Medical Records

Clinical Notes – Animal health staff can record accurate notes to summarize procedures, diagnostics performed, medical assessments and plans. **The Animal Care Staff Medical Summary is aimed at the animal care staff and goes directly into the note section in the Husbandry record, easily allowing keepers and curators to understand the medical condition of their animals.**

Diagnosis and Procedures – This module captures any medical concerns and any procedures resulting from the concern. **Standardized diagnosis and procedure records can be used to quickly review the major medical history for an individual. The medical conditions are also aggregated at a global level to provide anonymized analysis of commonly reported medical problems reported in a specific taxonomy.**

Prescriptions/Treatments – Any prescriptions and treatments are recorded here. Dispensing instructions can be created and printed for the animal care staff who may be administering the prescription. The success of the administration and the response to treatments are included. From here you can easily schedule a calendar task for future treatments. **Secure digital copies of prescriptions allow you to accurately track treatments in your collection, including dispensing and inventory records for controlled drugs. The dose calculator links directly to Global Drug Usage Extract data which is only available in ZIMS.**

Samples – Samples collected from your animals can be tracked here including the anatomical source, collection method and quality of the sample. Sub-samples can be created for multiple tests on the origin sample. Calendar tasks can easily be scheduled here for future sample collection. **This provides a means to easily search for sample records on an individual or species when completing reports for regulatory agencies.**

Tests & Results – Using the samples collected you can track what tests were requested and the results of these tests. **Standardized entry for test results for all types of samples makes searching easy. This module provides on screen**

visibility of an individual's results compared to Global reference data only available in ZIMS.

Anesthesia – The entire course of an anesthesia can be tracked here including circumstances prior to induction, drugs given, samples obtained, physiological measurements, effects and milestones and recovery data. **Having the entire sequence of events in one place is a great help to veterinarians. The information recorded here is also a direct link to pharmacy inventory records for controlled drugs.**

Necropsy/Death – Full post mortem records are captured here including the pathologist who performed the necropsy, gross and histopathological findings, and standardized diagnosis records, including samples and tests results. **Having these records standardized increases the searchability**. **Your medical records also benefit from the ability to finalize and lock a record, providing security when a case is complete.**

Biopsy – Biopsies are tracked here from the source to preliminary exam results, tests requested and their results, histopathology results and finalization once all the results are in. **This module provides a detailed data record for pathologist reports including descriptive text and standardized diagnosis, tests and results.**

Physiological Measurements – This module tracks measurements such as blood pressure, body temperature, heart rate and respiration rate, all very important factors in monitoring the health of an animal. This information can also be captured in various other modules such as Anesthesia. **Data can be visualized in a chart to assess a trend line during a procedure.**

Pharmacy Inventory

The Pharmacy Inventory was designed to help you track the controlled/regulated substances held at your facility. As you administer the drugs the amount is automatically deducted from the appropriate bottle. You can also track expiration dates for these drugs so you don't get caught with outdated ones. **This is a great help for hospital managers and for reducing pharmacy expenses. It also makes it easy to produce reports for controlled drug usage.**

STUDBOOKS

The Studbook module also uses information recorded in the husbandry module but, unlike the Medical module that pulls only from your local institution records, the Studbook module collates information recorded by all institutions holding the species.

Studbook Keeper List

This search provides a very easy way to search for Studbook Keepers using various search fields such as taxonomy, institution, country and Regional Association. It also provides a handy hyperlink to send an email to the appropriate Studbook Keeper. **Since studbook keepers are usually experts on their species, this is a great help for animal care staff to get answers to their questions regarding the species.**

Your Studbooks

Suggested Animals – Suggested Animals are animals entered in ZIMS but not found in the species studbook. When a new animal, such as a birth/hatch or acquisition from a non-ZIMS member, is recorded in ZIMS it will automatically appear in the Suggested Animal list. The Studbook Keeper can accept this animal into the studbook by simply accepting the data. There is no need to re-enter all the information on the animal. **This is a tremendous time saver for a Studbook Keeper as well as guarding against data entry errors.**

Animal Records with Updates – When new data, such as a change in rearing or a new transaction, is added at the institution level in a ZIMS institution that data is automatically presented to the Studbook Keeper as an Animal Record with Updates. The Studbook Keeper can accept these updates without having to re-enter the data. **This saves the Studbook Keeper considerable time as they do not have to wait for the institution to update them with the information, they are instantly informed.**

Data Quality – ZIMS will check the data in a studbook to make sure that it is complete, logical and follows conventions for the species reproduction. The Data Quality tools will identify possible data quality issues and notify the Studbook Keeper. **This data quality check helps to maintain an accurate studbook.**

GLOBAL RESOURCES

ZIMS uses the data recorded by Species360 members to provide resources for animal managers and veterinarians to better care for their animals. *The data in the resources is anonymous.* The number of records is usually indicated but the institutional source of the information is not, so privacy is maintained when appropriate.

Animal Management/Husbandry

Species Holding – Species Holdings displays the current holdings of the requested species by institution. You can search globally, by continent, by country and by Regional Association. The results contain hyperlinks directly into the animal record. It also displays a column for births/hatches in the last year. **This resource is especially helpful for animal managers and curators if they are looking for a specific species or have questions about them.**

Age Distribution – This resource displays a graph, often referred to as an age pyramid, which shows the number of animals in each age group by sex for the specified taxa. **This is a very good indicator if the species can maintain reproduction in the future and is an important tool for population managers.**

Weight Comparison Report – This report is a graph of the weight of a single animal, a single animal compared to weights in the global database for the same species, or just the weights of the specified taxa in the global database. **If you are unsure if your young animal is growing at the desired rate, or if an animal is over or under weight, this is a very helpful resource.**

TAG Export – This resource displays the current physical holdings of Species360 members and their IUCN status. It includes the natural geographic range of the selected species and the location of the institution. **This resource can be exported to raw Excel for manipulation of the data and is commonly used during TAG (Taxon Advisory Group) meetings to help make recommendations for the species.**

Population Overview – This resource is a one screen per taxon overview of the state of the population of the species in Species360 member institutions over the past 20 years. It can be run at the global, continent, country and Regional Association level.

Population Overview is used by population managers to interpret the health of the population of the species and assists with predications for the future.

Medical

Anesthesia Summaries – This resource provides a species-level, global-level summary of the most commonly used injectable anesthetic drugs and drug combinations that were recorded as producing anesthesia as the effect of those drugs. The data is sourced from the Anesthesia medical section of ZIMS. **This is an excellent resource to provide guidance to Veterinarians unfamiliar with anesthetizing the species involved**

Drug Usage Extracts – These extracts can be searched by taxonomy, drug category and drug name. The values are derived from the prescription records entered by Species360 members and are meant to assist with treatment decisions. **Veterinarians can consult this resource to help them decide on a treatment or use it as a reference when consulting with their colleagues.**

Test Results (Search by Test) – Searches by specific tests performed on the selected taxon can be found here. The results are grouped by taxonomy and include sample type, age of the animal, health status and sex. **This is an easy comparison tool for veterinarians.**

Test Results (Expected Test Results) – The Expected Test Results are health-associated benchmarks essential for the interpretation of quantitative laboratory results. You can search by taxonomy or by a specific test. These Expected Test Results are continuously updated on line as more data is recorded in ZIMS. **This is an important resource for veterinarians not familiar with the normal reference intervals for the species or the test result and is only available in ZIMS.**

Morbidity & Mortality Analysis – This resource allows searching for the most common clinical issues and an analysis of the relevant death information for a species. The common clinical issue will display the medical problem, the number of diagnoses and the duration of the problem divided into Resolved Medical Issues and Currently Active Medical Issues. The relevant death information is a graphic view of the causes of death for the species. **These analysis assist veterinarians with anticipating potential medical issues for the species.**