

The Benefits of Using ZIMS for Aquaria

(Reading time: Approximately 20 min)



Global information
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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. Some of the ZIMS functionality has been designed with aquaria in mind. This functionality are of great assistance to managing your aquatic animals and tanks. In addition, there are global resources that you can access that use the data recorded by our members.

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The following is a brief overview of the aquatic functionality 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 animals and the tanks/enclosures of your institution.

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.

Group Management – Groups can be managed simply by counting or estimating numbers in the group, or they can be tracked by sex type and life stage. Individuals can be split from a group (often for medical care), merged back into the group and split out again. Groups can also be managed as a colony. **Because the majority of animals held in aquariums are managed as groups, this flexible group functionality is important to aquarists and animal managers.**

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.**

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.**

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 – this can be approved by animal, group or taxonomy. 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 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.**

My Calendar - This functionality 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.**

TANK AND ENCLOSURE MANAGEMENT

Enclosure Tree – Your tanks and enclosures can be arranged in a tree that indicates the parent/child relationship. This allows for greater flexibility when running reports or performing searches. The Enclosure Tree can also display attached life support systems and components. **The parent/child relationships of the Enclosure Tree allow you to find animals in a grouping of enclosures, making searches and reports more powerful.**

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. The daily log saves a draft every 60 seconds so you do not have to complete the log in one sitting. **This log helps save time and confirms that all daily tasks are completed as they are all in one place.**

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. The occupants list can also be used to complete batch action records for quick, accurate data entry for records that apply to all or some animals in a single enclosure. **This helps to determine what species have been successful in the enclosure or easily show previous inhabitants that may have been exposed to a medical problem.**

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 institutional collection plan as a report for your entire institution can be run from this data.**

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, related water quality details, and any subsequent actions taken, in the enclosure record itself. Treatment administrations recorded here are also visible on the medical treatment recording, promoting easy communication between husbandry and veterinary staff. **Reviewing the enclosure treatment record can identify possible problems within an enclosure/tank and facilitates communication between departments.**

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. 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.**

Components – Your various components can be tracked in ZIMS and includes the manufacturer, the serial number and the manufacturer/vendor information. These components are then attached to each other to form a life support. **Having all this information associated with each component provides for easy tracking of source and possible re-ordering.**

Life Support – Life supports are created by attaching your various components together and then connecting the life support to one or more tanks/enclosures. You can also keep it very simple and create a life support without all the various components identified. These life supports can be connected, disconnected and connected to the same or different enclosures. **This functionality helps you track the important support that a tank/enclosure is getting to ensure the health of the occupants and for better monitoring the care of your animals.**

Maintenance – You can track maintenance such as cleaning, repair or water changes performed on an enclosure, life support or component. **Sometimes this maintenance may affect the occupants of an enclosure and there is a checkbox where the maintenance record can also be added directly into the animal record.**

WATER QUALITY

Measurement Range Templates – You can record your water quality measurements on each tank/enclosure. Using the Range Template you can set the desired ranges for all your measurements for each enclosure. Once the Range Template is developed, if a measurement is outside the desired range you will be given an instant message when you record the data and the undesired measurement will display in red in the measurement grid. 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.**

Water Quality Templates – To save time you can create water quality templates where you assign the measurement to be taken to multiple tanks. This allows staff to enter the results of multiple measurement types for a variety of enclosures from one screen. **Water Quality Templates are a huge time saver for your aquatic staff who record water quality measurements.**

Email Notification – If you have set up a Measurement Range Template, within each tank you can indicate if you would like appropriate staff members to receive email notifications should a measurement be outside the desired range. These notifications can be instant or received in a daily report. **Your animals depend on stable water quality and instant notification of a potential problem can be a life saver.**

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.

Enclosure Treatment – An enclosure treatment/prescription can be created in the medical module. Any treatments administered can then be recorded either by aquarists in the husbandry module or by veterinary staff in the medical module. The records display in both locations, providing easy communication between departments. **Having enclosure treatments in the record allows you to quickly see if a treatment was done and also allows easy comparison of other impacts to the tank such as maintenance.**

Clinical Notes – Animal health staff can record accurate notes to summarize procedures, diagnostics performed, medical assessments and plans. **The Animal Care Staff Medical Summary provides clear communication to 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.**

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.**

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.**

COLLECTION TRIPS

This module captures all the details of you collecting trips in one location. It includes trip dates, personnel, location, vehicles used and any permits required. You can then record any animals accessioned, caught and released, or died in transit. You can create a collection trip for animals already accessioned and assign them to it. **Having all this information in one place means retrieval of information and tracking of your trips is easy due to the detailed search fields available.**

REPORTS AND TOOLS

Group Explorer – This is a visual representation of the additions (births, acquisitions, merges), removals (deaths, dispositions, splits) and censuses for a specified group. **This tool provides animal managers with a quick and easy to interpret representation of activity within a group.**

Enclosure Activity Report – This report captures actions performed on tanks and enclosures such as water quality measurements, maintenance, feed logs and animal moves. It can be run by individual enclosures (including their child enclosures if desired) as well as by an enclosure list. Running it for your top level (your institution) enclosure will give an overview for activity in your entire facility. **This report provides a quick review for managers without having to look at each enclosure record.**

Wild Acquisitions Report – Wild caught animals make up a large majority of the collections of most aquariums. The many filters in this report provide the options for filtering by taxonomy, capture location, water type and collection methods. **This report is a great help to completing annual reports often required by governing authorities.**

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 Global Resources

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 Global Resources

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.**

