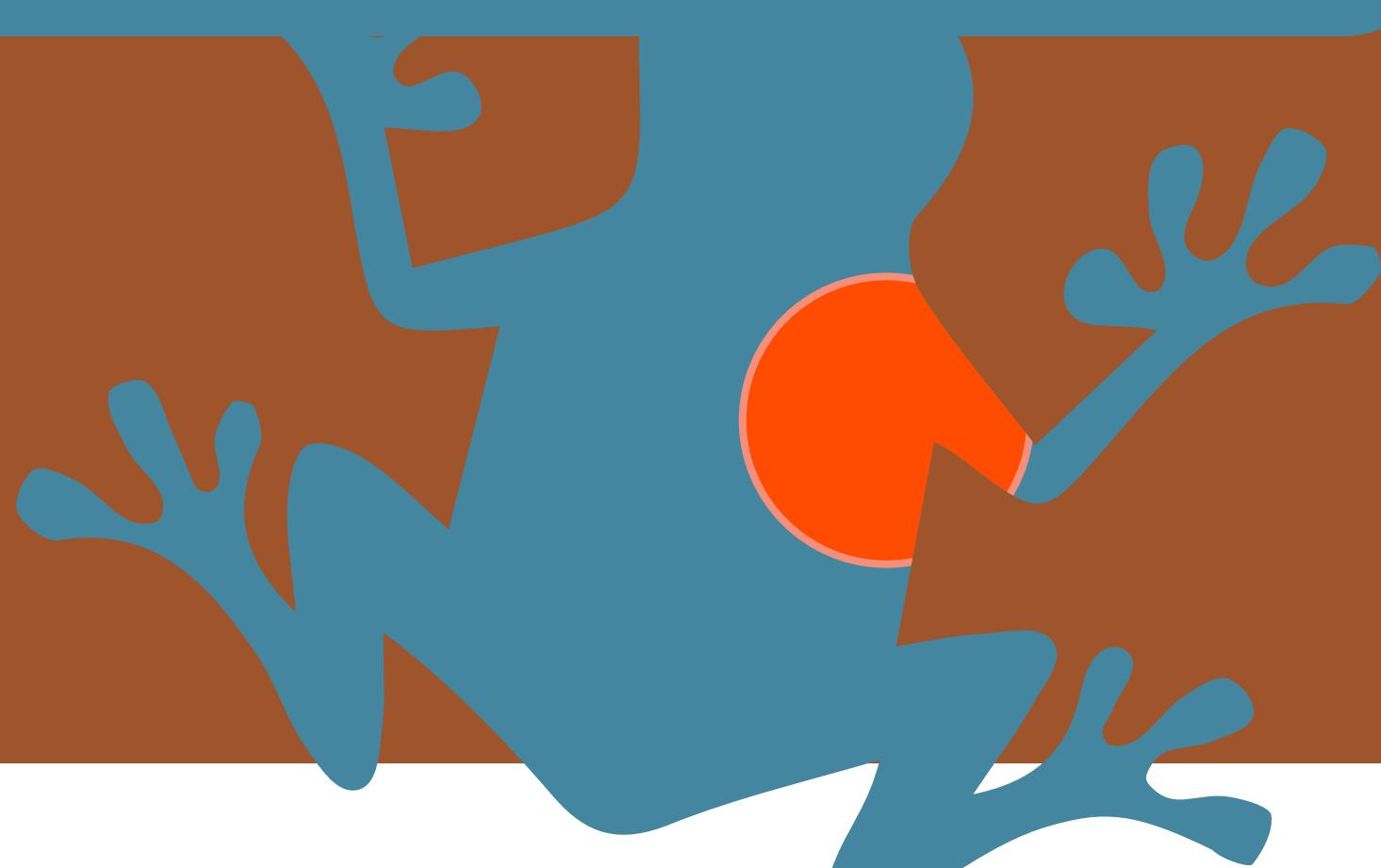


GLOBAL RANAVIRUS REPORTING SYSTEM

powered by **MANTLE**

BACKGROUND



Purpose

Ranaviruses are known to cause mass mortality episodes in multiple species of amphibians, reptiles, and fish and are listed as a notifiable disease by the World Organization for Wildlife Health (OIE). However, current Ranavirus reporting systems are fragmented and lack interpretability, with data siloed in multiple isolated data stores. The Mantle biosurveillance platform was created to enable scientists and managers to easily communicate and share disease information in a centralized repository.

FULL CONTROL OVER DATA

Data Organization

The Global Ranavirus Reporting System data are organized by study, with each study containing a number of individual observations, or reports. A study is created first and is associated with contact information for the corresponding author. Default values for various fields like species, vertebrate class, or screening reason can also be set at the study level. Reports added to the study assume these defaults unless they are explicitly overridden. This facilitates faster data entry by allowing the researcher to only enter the data that differ for each report.

Submitted by	
Study - Lab A	Jane Doe
Study - Lake A	Jane Doe
Study - Lake B	Jane Doe
Study - Pond A	John Doe
Study - River A	Jane Doe

Data Import

If study data already exist in a structured format, they can be imported in bulk from a CSV-formatted file. When creating a study, the user may upload a CSV file with the appropriate structure and field names. All reports in that file will be added to the system and associated with the new study. The required CSV format is easy to produce from a spreadsheet or export from an existing database.

CSV file upload		CSV import instructions			
<input type="file" value="rana-smaple.csv"/>					
<input type="button" value="Remove"/>					
File:	rana-smaple.csv	Columns	Filter		
eventDate	eventLocation	numInvolved	totalAnimalsTested	totalAnimalsConfirmedInfected	totalAnimalsConfirmedDiseased
Wed Feb 03 2010 00:00:00 GMT-0500 (EST)	[object Object]	2_10	22	20	19
Show 10 rows per page					
Unused fields in your data eventLocation.latitude, eventLocation.longitude					

Data Export

Data in the system can be exported in CSV format for loading into a spreadsheet or use in other applications. All publicly shared data can be exported, and filters can be used to export only data that match desired criteria, like belonging to a particular study or user, or concerning a certain species.

Full Reports	
Study	Event Location
Study - Pond A	Lithobates l. sylvaticus Routine Wild Jane Doe
Study - Lake A	Terrapene carolina Routine Zoological Jane Doe
Study - Lake A	Anas platyrhynchos A. platyrhynchos Routine Wild Jane Doe
Study - River A	Anas platyrhynchos A. platyrhynchos Mortality Wild Jane Doe
Study - Lake B	Anas platyrhynchos A. platyrhynchos Mortality Wild Jane Doe

ENTERING DATA

Learning the System

The Global Ranavirus Reporting System includes a help section with narrated video tutorials to orient new users to the system. Most aspects of the system will be intuitive for users who have a general familiarity with web forms and database applications.

Geographical Coordinates

Reports may be associated with locations by entering coordinates in one of three formats: decimal degrees latitude and longitude; degrees, minutes and seconds latitude and longitude; and UTM coordinates. Additionally, the user may click on a point on the map to set the location for a report. Regardless of how the location is entered, all coordinate systems and the map view will update to show the new location so the user can verify its correct placement. Having geographical data associated with a report allows it to be shown on the world map view.

VIEWING DATA

Tabular Data

The report table view shows a customizable selection of fields for each report. The reports displayed can be limited by setting filters, for example to limit the reports to those belonging to a single study or those with a specific population type. These filters also apply to the CSV exports which can be initiated from the table view, allowing customized datasets to be easily built and downloaded.

View the application at mantle.io/grrs

Access

Anyone can view tables and maps of reports that have been shared with the public without creating an account. To contribute data to the repository, users must create an account and provide contact information. Site administrators have special privileges to moderate content posted by all users.

MANTLE

The problems associated with disease data collection are not unique to Ranavirus. Information sharing platforms could benefit many different disease scientists, for both human and animal diseases. Mantle enables scientists to upload case- and study-level data, and provide outbreak data, epidemiologic characteristics, and spatial characteristics of their findings. Scientists and managers are then able to download reports from the user community for independent analysis and review. Mantle also enables users to quickly get an overview of diverse datasets, providing sophisticated querying and filtering in tabular and map views.

Forms

Study and table information is entered using simple web forms optimized for speedy data entry and data integrity. Fields are validated to make sure the users have entered the correct kind of data, for example by verifying that species names are in the binomial nomenclature, or that geographical coordinates fall within the required range. Many fields have explanatory text that is displayed when the cursor is hovered over them.

Quality Control

For quality control, reports submitted by new users will be reviewed and approved by site administrators to ensure they are appropriately documented and accurately entered. Confirmatory evidence of ranavirus infection or disease, such as PCR, virus isolation and sequencing, or histology, will be required. Records based solely on possible gross signs of ranaviral disease will not be approved.

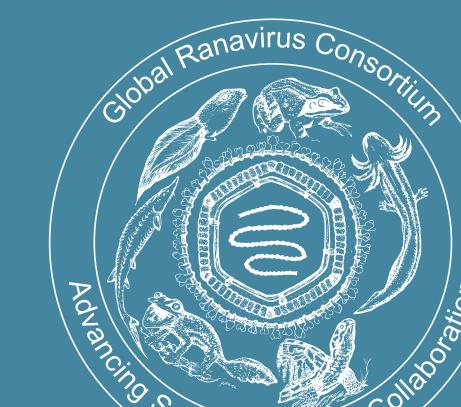
Users can view data for individual studies and reports, and get a global view of the data in the system with the table view or map view, each of which contains all publicly shared reports, as well as all reports submitted by the logged-in user, regardless of permissions.

Map View

The map view places markers on a world map for each report that has geographic coordinates associated with it. Clicking on a marker opens a window to display selected report fields, and a link to view or edit the report. Reports can be filtered, as in the table view. They can be sorted into color-coded groups according to their values for various fields, allowing the user to visually distinguish between markers on the basis of species, genus, population type, etc.



EcoHealth Alliance



USDA

