

SADC REGIONAL PROGRAMME FOR RHINO CONSERVATION

REPORT ON HANDS-ON TRAINING COURSE IN USING WILDLIFE INVESTIGATOR SOFTWARE

Task 2.4-4.2
RESG project: Installation and Training on
Law Enforcement Database

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Software installed and training course given in April 2005

A short hands-on course (spread over two days) was held as part of the April 2005 SADC Rhino and Elephant Security Group/Interpol Sub Regional Bureau meeting held at Double Drift, Great Fish River Reserve, Eastern Cape South Africa. This proved to be a very cost effective way of both distributing and installing the software (with the first .avi training videos) as well as holding the course.

While more individuals sat in on some of the course, individuals from a total of 17 different conservation/police agencies from 7 different SADC countries (Zimbabwe, South Africa, Zambia, Swaziland, Botswana, Namibia and Tanzania.) attended the course and registered to be put on a user's list and be kept informed of updates (See list of registered participants at the end of the report).

Completing and Installing Wildlife Investigator Software

The course started with copies of the software and dummy data sets being loaded onto delegate's laptop computers (which they had been requested to bring to the course) , and checked to see if they were working OK.

Although an executable run time version of Wildlife Investigator had been prepared for the course by the programmer, this was not required, as all the delegates came with computers with MS Access loaded on them.

Background presentation

The course started with a background presentation giving background information on what a relational database is; how they are structured; and how databases differ from more commonly used spreadsheets. The difference between fields that could be queried and those that stored additional information and were not queriable was then explained with reference to Wildlife Investigator. Field trials had indicated that without such an understanding, some inexperienced users would end up capturing data in a way that the information could not properly be accessed or queried.

Linking data

By building up a worked example the basic approaches to entering and linking data in Wildlife Investigator were explained. An *incident* was defined. It was then explained that information on different incidents are entered separately with related information on other objects (species, people, weapons, businesses etc.) associated with that incident also being entered separately. The way all the related information in different tables is linked together was then explained and illustrated using the worked example.

Linking is a key concept in using Wildlife Investigator and the course showed users when and how they should set up links between any two pieces of information (for example a person to a weapon) or incidents that are related.

The value of using a picture to determine which bits of information to link to other bits of information was illustrated using the worked example. It was shown how drawing a picture with boxes (for objects) and lines linking boxes together (links) was useful in planning how to enter data and what should be linked to what. As links were captured these could be ticked off on the diagram.

It was explained how one only needs to create a specific object (e.g. a person or vehicle) once, even if he/she/it is associated with more than once incident or other object. An object or incident can be linked to as many other incidents and other objects as needed.

Using the dummy data from the worked example, delegates were then shown how to obtain a short report in table form documenting the links between one any incident or other variable (e.g. person, weapon etc.) and other pieces of information.

The process of entering data and setting up links was then recapped as doing this correctly is the key to entering data correctly and getting the most out of the database.

The steps for linking in Wild Investigator are as follows..

1. First enter data on an *incident* (e.g. a black rhino being found poached)
2. Then enter data on all objects related to the incident (*species, person1, person2, weapon, vehicle seen near crime scene* etc.)
3. Then with the exception of linking species to incident (which is done automatically), create links between selected pairs of related objects (eg *person 1 to a specific weapon, a specific weapon to animal shot* etc.) to set up first order "links"
4. Repeat the process for any related *incidents* (e.g. subsequent recovery of a firearm)
5. Link the related *incidents* together (for example linking the rhino poached to the firearm if ballistics tests later match the weapon to the rhino shot).

Use of three level hierarchical systems to define both incidents and location

Incidents are described in according to a three level hierarchy and this was then explained with worked examples. For example the incident type could be *Poaching* as the intention was to kill, the incident sub-type could be *Snaring* and the Incident description could be *Found badly injured & later died*.

Location is described in Wildlife Investigator using a three level hierarchy and this was explained. For example the organisation might be *SANParks*, the Reserve/Area *Kruger National Park* and the Section within Reserve *Tshokwane Management Section*.

SANParks's Ken Maggs and Sandra Snelling were acknowledged for their testing of earlier versions of the software and together with Richard Emslie developed the hierarchical description systems used in the software. This was necessary both to facilitate flexible reporting and graphing of data by users, and to help ensure consistency in how users entered data.

To help ensure consistency in data entry, *Poaching* was defined as occurring when the intention was to kill; and when the intention was not to kill an incident would be described as *Illegal harvesting*. Armed with this definition it was then easy to classify snaring as *Poaching* (irrespective of whether or not a snared rhino died or not), and trying to smuggle a tortoise out of a park in the boot of a car, or illegally moving a cycad as *Illegal harvesting* (irrespective of whether the tortoise or cycad subsequently died or not).

Incident numbering

Sandra Snelling led a discussion at the workshop concerning possible ways to number incidents in a meaningful way, outlining the system she used in Kruger NP.

It was noted that it would be good to get future editions of the software to automatically number incidents and to add some specific queries to allow users to see how many records of what type were collected from where in a given time period.

Customising and using drop down menus

Data entry for most of the fields in Wildlife Investigator uses drop down menus and users were shown how to customise these menus to best fit their needs. Examples were then used to explain how to define the parent:child relationships for drop down menus for the hierarchical classifications of Incident and Location.

Customising software

Users were also shown how to customise the software and reports (adding organisation specific logos, names and station code and name) and to set up the preferred system for storing lat/long format geographical data.

Users were also shown how to specify the directory where the software should search for linked photographs.

Users were also shown how to customise a version of the software to make it either a central or satellite version.

Linking to related photographs and documents

A demonstration was given on how to link photographs and documents to incidents and other objects. Delegates then got to practice this.

Going through Wild Investigators various main menu screens

Users were taken through the software's various main menus using the data projector. Users had access to a dummy dataset which they could add to, change and use during practice sessions.

- This session started with showing how to add information on new incidents and objects. Delegates then practiced this themselves to reinforce the lessons learned by doing.
- Users were then shown how they could find and edit information on incidents and other objects (i.e. information on species, people, businesses, firearms, vehicles etc.). They then practiced this.
- Users were then shown how to produce customised incident statistics reports and graphs as well as query links using the various software reporting and querying menus. Once again users could practiced using the software. Unfortunately due to time being required for a field anti-poaching exercise and presentations on spoor collection techniques and the use of trained dogs in rhino crimes not as much time was available for this as had originally been hoped.
- The menu for exporting data from a satellite to a central database or importing data into a central database from a satellite database was explained. Users were shown how to customise the software to act either as a central or satellite database.

Keeping track of investigations and court cases

Delegates were also shown how the software could be used to keep track of information relating to an investigation and a long running court case.

Course – running the avi training videos

Finally those who attended were also shown how to call up and play three .avi training videos supplied. The main introductory video that summarised much of what was covered in the initial training sessions. Delegates were told early on that the main training video had been loaded onto their computers and this enabled them to concentrate more on the presentation without having to try to write everything down that was being covered.

Links have been programmed into the software to be able to include additional training videos simply by adding them to the appropriate directory. In due course further training videos will be added throughout the software. These will be distributed to users with the next updated version.

Post course follow up with programmer

Following from experiences on the training course a report was written for the programmer by the project leader, and some additional changes were made to Wildlife Investigator.

Most importantly a bug that was found in the data export/import routines at the course was subsequently fixed by the programmer.

Long –term sustainability

Given the favourable response to the software, the desirability of adding many more queries and other identified features to the software, and the need to be able to fund further development and support of the package by the programmer, a funding proposal will in due course be submitted to US Fish and Wildlife.

Registering agencies and their countries

Those who attended and registered to receive notification of program updates (excluding those that sat in for part of the course or were not active hands on participants)

REGISTERED PARTICIPANTS	ORGANISATION COUNTRY
Juan de Beer	Mpumalanga Parks Board , S.Africa
Sandra Snelling & Ken Maggs	SANParks, S.Africa
Rusty Hustler	North-West Parks & Tourism Board , S.Africa
Simon Pillinger	Strategic Wildlife Consultants, S.Africa
Lovemore Munwashu	WWF-SARPO, Zimbabwe

Dean van der Westhuizen	Special Investigations Unit, SA Police Services S.Africa
Mercy Munyadzwe	Botswana Dept Wildlife & Nat Parks, Botswana
Werner Boing	Free State Dept Tourism, Envir. & Econom. Affairs, S.Africa
Mickey & Cotts Reilly	big Game Parks, Swaziland
Lloyd Kabwela	Zambia Wildlife Authority, Zambia
Michael Sibalatani & Colgar Sikopo	Namibia Ministry of Environment & Tourism, Namibia
Rod Potter	Ezemvelo-KZN-Wildlife, S.Africa
Stephen Msumi	Tanzanian National Parks, Tanzania
Bonaventura Midala	Wildlife Division, Tanzania
Dirk Boshoff	Special Investigations, Gauteng Province, S.Africa
Rian de Jager	Limpopo Regulatory Enforcement, S.Africa
Thabo Khantsi	Interpol Sub Regional Bureau, Zimbabwe

Acknowledgements

Simon Pillinger is thanked for helping communicate what delegates should bring to the course, and all his work organising the meeting in which the course was held and helping with logistics at the course.

The early work of WWF and Simon Pillinger and Sam Watts in initially developing this software was acknowledged.

Ezemvelo-KZN-Wildlife then funded Clare Yunie and latterly Rose Hamilton to rewrite and further develop the software in MS Access.

Ezemvelo-KZN-Wildlife and SADC RPRC funding then enabled the software to be further enhanced and significantly improved by programmer Rose Hamilton . This process was coordinated by Richard Emslie (SADC RPRC project leader) who was also the primary presenter of the training course. Richard also helped test and debug various versions of the software. The need for this project was supported by the SADC Rhino and Elephant Security Group and its Chairman Lovemore Mungwashu.

The important contribution of SANParks' Sandra Snelling and Ken Maggs in both testing and commenting on earlier versions of the software played an important role in both debugging the software and developing it further. Their input was also invaluable in the lead up to and at the course.

Rose Hamilton is thanked for working far many more days on this project than she was contracted for.