



INTERNATIONAL  
BEARDED VULTURE  
MONITORING

# **THE INTERNATIONAL BEARDED VULTURE MONITORING PROGRAM DATA BASE**

## **User's manual 1.6**

### **GLOSSARY**

<b>1</b>	<b>INTRODUCTION .....</b>	<b>2 -</b>
<b>2</b>	<b>THE IBM: INTERNATIONAL BEARDED VULTURE MONITORING PROGRAM .....</b>	<b>3 -</b>
<b>2.1</b>	<b>Home page .....</b>	<b>3 -</b>
2.1.1	VCF: .....	4 -
2.1.2	Downloads: .....	4 -
2.1.2.1	Registration Form for Alpine Observation Days: .....	4 -
2.1.2.2	Registration Form for NESTS:.....	4 -
2.1.2.3	Registration Form for TERRITORIES or COUPLES: .....	5 -
2.1.2.4	Registration Form for Common OBSERVATIONS:.....	5 -
2.1.3	Links:.....	5 -
2.1.4	Administrator: .....	5 -
2.1.5	Contact: .....	5 -
2.1.6	Animations: .....	6 -
<b>2.2</b>	<b>The IBM Data base.....</b>	<b>7 -</b>
2.2.1	Minimum system requirements .....	8 -
2.2.2	Principles of cooperation .....	8 -
2.2.2.1	Collecting Centres .....	9 -
2.2.2.2	Friendship Matrix .....	9 -
2.2.3	Access to the Data base:.....	9 -
2.2.4	General Information .....	10 -
2.2.5	Sections of the Data base: .....	13 -
2.2.5.1	Newsflash .....	13 -
2.2.5.2	Observations .....	14 -
2.2.5.3	Birds.....	19 -
2.2.5.4	Nests.....	23 -
2.2.5.5	Reproduction.....	24 -
2.2.5.6	Genetics.....	28 -
2.2.5.7	Observers .....	30 -
2.2.5.8	Profile.....	31 -
2.2.5.9	Log out .....	32 -



# 1 INTRODUCTION

It has been a while the IBM Data base has proven to be a unique tool for the international exchange of information regarding individual marked birds, reproduction and other monitoring issues. Meanwhile, the Data base itself has grown to a considerable extent (>40.000 observations and hundreds of reproduction data) and the online explanations for each data field alone has turned out to be not enough to explain the Data base in its whole complexity. Moreover the collection of information has been extended successively from its original focus on “common observations” (of marked birds) to reproduction, satellite monitoring\* and genetic monitoring. Therefore the need of a protocol how to store information and how to use the Data base became evident. This manual shall help new collaborators to facilitate the use of the Data base. However, it shall also be a guide for more advanced users (Local administrators) on how to collect information and where to store it properly in the Data base.

The manual has been divided in two parts. In chapter 2.1 the homepage as a frame of the IBM work and the Data base has been described. The site is available without any restrictions for public and serves mainly to distribute information such as reports, marking pattern, registration forms and other kind of information. The manual for the Data base itself can be found in chapter 2.2. It goes into details about Data base functions and the daily use of the Data base as a monitoring tool.



---

*\*The satellite monitoring still has to be included in the IBM data framework.*



# 2 THE IBM: INTERNATIONAL BEARDED VULTURE MONITORING PROGRAM

## 2.1 Home page

The IBM website <http://www.gyp-monitoring.com> contains updated information about the current progresses in the monitoring program as well as a vast data base with information collected throughout the almost 30 years of work. This webpage offers services both for unregistered users and for those involved in the IBM monitoring program, institutions to whom access to the Data base has been previously granted.

The screenshot shows the homepage of the International Bearded Vulture Monitoring Program. At the top left is the IBM logo (a black bird with a red and yellow eye) and the text 'INTERNATIONAL BEARDED VULTURE MONITORING'. To the right is a login form with 'User' and 'Password' fields and a 'login' button. Below the navigation bar, there is a 'Startseite' link. The main content area is divided into two columns. The left column features a central image of a bearded vulture in flight, surrounded by logos of partner organizations: VCF (Vulture Conservation Foundation), alparc, Parco Naturale Alpi Marittime, Nationalpark Hohe Tauern, SPB FPG, Regione Autonoma Valle d'Aosta, Les Ecrins, Le Mercantour, and La Vanoise. At the bottom of this column is a banner for 'MIT UNTERSTÜTZUNG VON BUND UND EUROPÄISCHER UNION' with logos for the European Union and LE 07-13. The right column contains a news section titled 'New marking pattern available now:' with a link to 'Marking Pattern for the Alps 2010\_2010d.pdf - 326 kB' and another link 'New record in ALpine BV reproduction?'. Below this is a photograph of a bearded vulture in flight, followed by text reporting that 19 couples started with incubation in May 11, and the first chicks are born. A final paragraph states that in April 2010, 18(19) couples started with reproduction, and at least 9 chicks have hatched in the Alps.

In the centre and left side of the home page are the logos of the different organizations that constitute the international program (e.g. IBM Members).

On the right side there is a regularly-updated column displaying the last news and events that have taken place within the project.

The grey bar over the logos shows the 5 different sections in which the page is divided:



### 2.1.1 VCF:

This section provides information about the VCF (Vulture Conservation Foundation), its beginnings and background, as well as coordination tasks and goals. A summary with the last activities carried out by the VCF can be downloaded and a link to the VCF site is given.

### 2.1.2 Downloads:

In this section it is possible to download, among other files, reports of the different projects and actions carried out within the program in recent years, images of the rings used, marking patterns used for released birds, identification guides (in German, French and Italian), maps of the nesting places in the Alps, or logos of the IBM. Furthermore, a copy of the different registration forms necessary to record any kind of observation of birds in the wild can be downloaded (see explanation below). For the unique option "follow the birds" see section **2.1.6 Animations (→ NOTE: For technical problems this service is currently unavailable!)**

→ **Registration Forms:** There is some basic information that must be noted down every time an observation of a bird is made in the wild. In order to facilitate the task to the observer, there are registration forms for every type of observation, for instance during Alpine Observation Days, if it is a nest site (NESTS), a known sedentary bird/couple (TERRITORIES/COUPLES), or general observations (COMMON OBSERVATIONS).

#### 2.1.2.1 Registration Form for Alpine Observation Days:

Once a year in the Alps there is an event called the *Alpine Observation Day*, when all the members of the IBM network and their collaborators survey different points along the Alps to estimate the current population size. In this section of the web a basic registration form can be downloaded, with an example of how to fill in the different columns. For the exchange of positions (observer & bird location) it is of utmost importance to work in decimal degrees and WGS84 coordinate system.

#### 2.1.2.2 Registration Form for NESTS:

Every time a new nest is found a whole new file shall be created (see section **2.2.5.4 Nests**). For each nest a number of variables should be collected. These data give an opportunity to define potential breeding sites and to compare the situation of nest sites in the whole Alps. However, only nests which have been used by the bearded vultures at least for roosting, nest building or sleeping shall be registered.

When entering the information later on into the IBM Data base, the ID is the only data that is automatically assigned. For storing information about Nests in the IBM Data base see section **2.2.5.4.1 Nests → Create a new Nest file**.



### **2.1.2.3 Registration Form for TERRITORIES or COUPLES:**

When a pair is observed regularly in the same area, this might mean that these birds constitute a couple and the area is their territory. Since each bird of a pair might be observed rather frequently in their territory, it would be inconvenient to store each observation separately as a common observation; for this reason, this kind of observations are stored in the Data base in a different way, not as a “common” observation, but in the section **2.2.5.5 Reproduction**, creating a file for the pair. The excel file of the registration form consists of 2 worksheets: “data to enter once” and “data to enter regularly”. The prior one serves to store basic information such as the nest site used, the identity of the birds, the period of occupation, etc. The latter shall be used to store information such as behaviour data or any other information that might change from day to day (e.g. nesting behaviour, interaction with other species etc.), facilitating the task for the user of the Data base. For storing information about Territories/Couples in the IBM Data base, please see section **2.2.5.1 Reproduction → Create a new Reproduction file.**

### **2.1.2.4 Registration Form for Common OBSERVATIONS:**

In case a bearded vulture (without any local binding such as an occupied nest) is seen, the information shall be stored as a “common observation”. The registration of this kind of data is focused on the individual bird (one or more birds). In case particular individual(s) is/are observed frequently for a long period (e.g. several months) it can be expected to be territorial. Then (in case at least one nest/sleeping site has been identified) the observation for that bird shall be stored in the form for “territories/couples” (see above for the registration form of Territories/Couples). For storing information about (common) Observations in the Data base see section **2.2.5.2.1 Observations → Create a new Observation file.**

### **2.1.3 Links:**

In this section there are direct links to some recommended pages, as those of the national parks where bearded vultures have been released, of breeding centres involved in the project or webs with general information about the birds of prey and vultures of Europe.

### **2.1.4 Administrator:**

Information about the IBM Data base administrator

### **2.1.5 Contact:**

This is a standard form to send any special request to the international administration of the project. Only the fields: first name, second name, e-mail (to answer the request) and the request itself are obligatory.



## 2.1.6 Animations:

### → Service temporarily unavailable

With the map that appears in this section (powered by GoogleEarth<sup>®</sup>) it is possible to simulate the flights of bearded vultures released in the Alps, based on observations stored in the IBM Data base. A maximum of 2 birds can be animated simultaneously by selecting their names from the menu(s) below. By default, the period of time covers a hypothetical range, from 01/01/1900 to 01/01/2100 in order to span the whole number of observations made of the bird; however, the period can be chosen according to the nature of the information of interest. The running animation can be paused at any moment (“stop animation”) and then continued (same button, this time with the text “continue animation”). Depending on the internet connection capacities it might take some time until the computer has loaded the animation.

→ **NOTE:** Not every bird in the drop-down list has been recorded in the wild, so in such cases there won't be any animation available. When this happens, the animation just focuses in a point with the coordinates 0.0000 0.0000 and the message “end of the animation” will appear beside the action buttons.

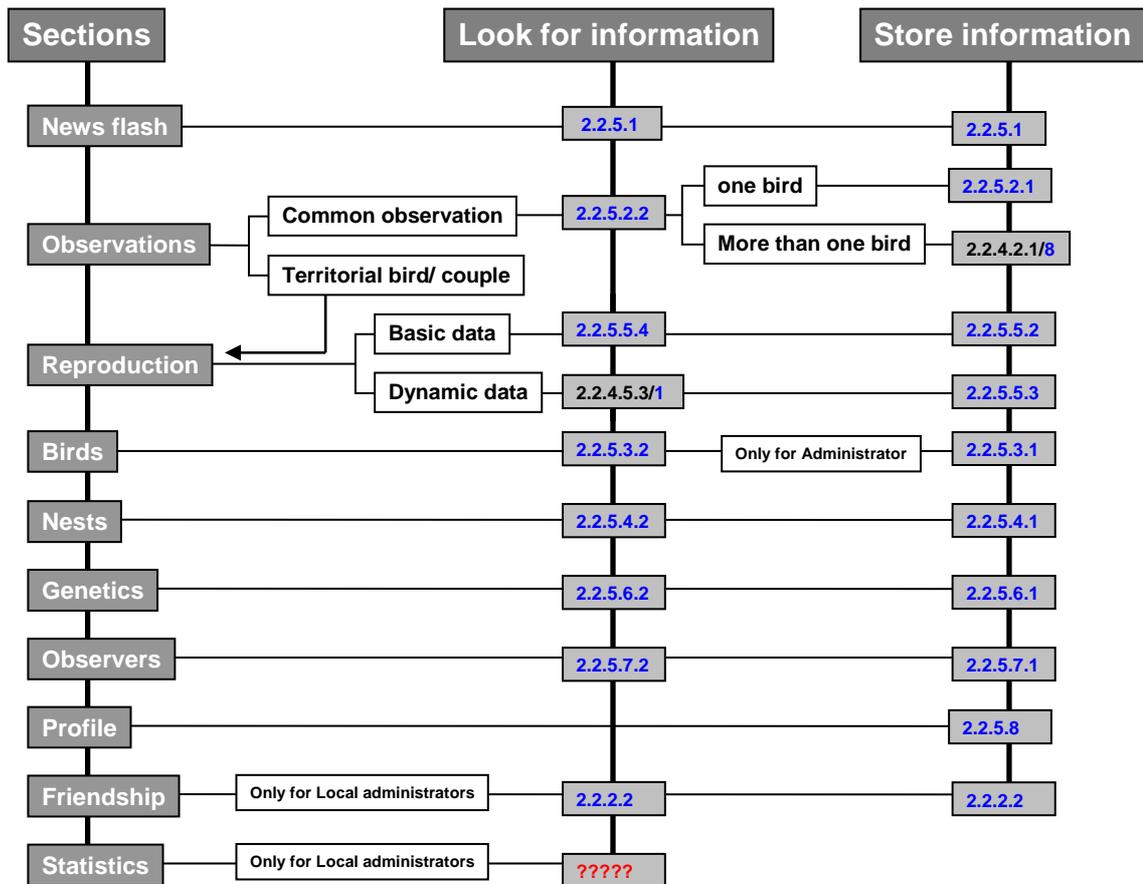
The animation of the flight paths is a service provided voluntarily by the Veterinary University of Vienna.



## 2.2 The IBM Data base

This data base contains an ever-increasing amount of data of every trait of the Bearded vulture Monitoring Program, and has been actively used since almost a decade. These files are an invaluable source of information showing the result of almost 30 years of endless effort to evaluate what seemed impossible for many back then: the return of this emblematic species to the Alps.

### Quick guide for users



## 2.2.1 Minimum system requirements

The application works with all common internet browser software based on the main operating systems. However, the Internet Explorer up to and including version 6.0 is known as unsafe and slow. We advise to update Internet Explorer to a newer version (>6.0).

More important than the used browser or the system software is the speed of your internet connection. With some functions data have to be transferred through the internet already during the input procedure (e.g., with the input of local data for observations). Thus a permanent internet connection is necessary. Nevertheless, for the basic functions of gyp-monitoring.com the slowest DSL connection (e.g., 512 kbps) is already sufficient. In case you want to upload pictures on the server, it helps if the transference speed is a little higher this is the case in particular if huge data volumes are concerned. Caused by the automatic software updates which can run automatically in the background of your PC/Mac the available range for the work with gyp-monitoring.com can decrease considerably.

We recommend the following operating systems and browsers for the work with gyp-monitoring.com:

Windows:

Processor: starting with Pentium 3, all Single-Dual- or Multicore processors beyond 1,5 GHz

Random Access Memory: starting with 512 MB (Windows XP), starting with 1GB (Windows Vista, Windows 7)

System Software: Windows XP, Windows Vista, Windows 7

Browser: Internet Explorer starting with version 7, Firefox starting with version 2.0, Opera starting with version 7.5, Safari all versions, Google Chrome all versions.

Apple/Mac:

Processor: Mac PowerPC starting with 1,25 GHz, Pentium Dual-Core all versions

Random Access Memory: starting with 512 MB

System Software: Mac OS starting with version 10.0 (Codename Tiger)

Browser: Firefox starting with version 2.0, Opera starting with version 8.5, Safari all versions, Google Chrome all versions.

Not supported: Internet Explorer Mac!

No System Support:

Linux, diverse distributions – works with browser Firefox and Konquerer, however is not supported officially.

Tablet-PCs, Smartphones, etc. will be not supported. Many applications and forms might work but the operating speed is critically reduced.

## 2.2.2 Principles of cooperation

The network of the IBM intends to store and exchange all relevant information to monitor specific individuals as well as the welfare of the entire bearded vulture population. The Network comprises the IBM members (mainly managed protected areas involved in the release and monitoring of



bearded vultures, but also VCF) that finance the IBM and supervising partners such as ALPARC (and also VCF). To guarantee a steady evolution of the monitoring process a steering committee has been set up. It decides about the annual working program of the IBM. The basic data base tool itself is own by the VCF.

### 2.2.2.1 Collecting Centres .

Each financial contributing IBM member has been assigned as a data Collecting Centre. In each Collecting centre several users can be active. The data rights have been fixed in the IBM convention, but basically the rights remain within the original Collecting Centre.

### 2.2.2.2 Friendship Matrix .

Within the IBM, common observations (see section **2.2.5.2 Observations**) are exchanged among all members by default. When dealing with more sensible data such as nesting sites, reproduction data etc. the members can decide with whom they want to exchange this kind of information. In general, all kind of sensible information is kept within the original Collecting Centre. The Local administrator (see below) can modify the access rights for all the other Collecting Centres within a so called Friendship Matrix. This can be done only by the administrators, but not by the rest of users. Thereby the administrators can choose between three options of access:

- 1) READ ONLY (no modification and no export of data is possible),
- 2) MODIFY (foreign members that have been granted access can modify data) and
- 3) EXPORT (foreign members that have been granted access can export data).

## 2.2.3 Access to the Data base:

Once in the main page, it is necessary to log in to access the Data base.

With the entry permit (username and password) the user will be granted access to a series of options within the Data base system.

There are 2 main types of user that can get access to the Data base:

- **Users:** Their access to the Data base is slightly limited, but even though they can store almost every kind of information and navigate through most of the data stored. Every user belongs to a Collecting Centre (see 2.2.2.1) depending on the institution (being member of the IBM) the user belongs to.
- **Local administrators:** This kind of user has been granted access to more options than the normal user, although these privileges might be restricted to the own Collection Centre (see **2.2.2.2 Friendship Matrix**). There are some sections that only the Local administrators can access.



Besides, there are 2 more functions that are additional to the status of User or Local administrator: Translator and Genetics. These ranks are bestowed by the Administrator on some specific persons when necessary, usually for a short period of time.

The username and password must be entered in the fields at the top of the main page.

Once acceded, the main page of the Data base looks as follows:

The screenshot shows the main page of the International Bearded Vulture Monitoring database. At the top, there is a header with the logo of a bearded vulture, the text "You are logged in as: (User)", and the site title "INTERNATIONAL BEARDED VULTURE MONITORING". To the right of the header are input fields for "User" and "Password" with a "login" button. Below the header is a navigation menu with buttons for "Newsflash", "Observations", "Birds", "Nests", "Reproduction", "Genetics", "observers", "Profile", and "LogOut". The main content area is divided into two columns. The left column contains a "Welcome in the world of bearded vultures!" message, followed by a paragraph explaining the site's purpose and a "Attention" note. The right column is titled "Newsflash" and contains a list of recent observations with their IDs, dates, locations, and observers. A central image of a bearded vulture in flight is also visible.

In the middle and left of the page there is a welcome message with some tips of the use of the Data base. The right column, newsflash, displays updated information about the last news concerning the bearded vulture.

## 2.2.4 General Information

The main 2 actions that can be carried out when using the Data base are **searching for files** and **storing new data**.

Let's focus first in the **search for files**; when accessing the section of interest (newsflash, observations, birds, nests, etc.), a searching column can be seen on the left side of the page (see **figure 1**). There is a possibility of looking for particular files by defining the search parameters, or also of checking the entire list by pressing the "go" button without specifying anything (except on the sections "Observations" and "Observer"; see notes at sections **2.2.5.2.2 Observations**→ **Search for Observations** and **2.2.5.7.2 Observers**→ **Search for Observers** respectively). While specifying a certain request please be careful you do no misspelling and enter the information in the correct format (e.g. International Code of observation: O-xy-0000513 xy being the number of your collection centre, date: 1.1.2010 or 01/01/10 or 1.01/2010). In the observation menu all entries of fitting bird names appear as you start tipping. You need to select a certain bird to continue with your query. In the bird menu, the nest menu or the



reproduction menu all names fitting your entry are being listed as soon as you press the “Go” button. In the reproduction menu you can specify the breeding season (date of birth) entering the year (e.g. 1998 or 98). For the selection of a certain genotype please enter the genotype code (G-xy-0000001) or the bird ID (e.g. B-01-0000115 or the studbook number 115). The list of results that match the search appears below; if there are more than 10 results, they will be grouped in pages, appearing in ascending or descending order, depending on which of the two options has been chosen.

The image shows a search form with the following fields and options:

- search for** (title)
- Bird**: text input field with a "Go" button.
- Collecting Centre**: dropdown menu with "FCBV" selected and a "Go" button.
- country and area**: dropdown menu with "NDL" selected and a "Go" button.
- International Code**: text input field with a "Go" button.
- date from - to**: two text input fields with a "Go" button.
- sort by**: dropdown menu with "date ascending" selected.

figure 1: Example of searching column, in this case of the section Observations

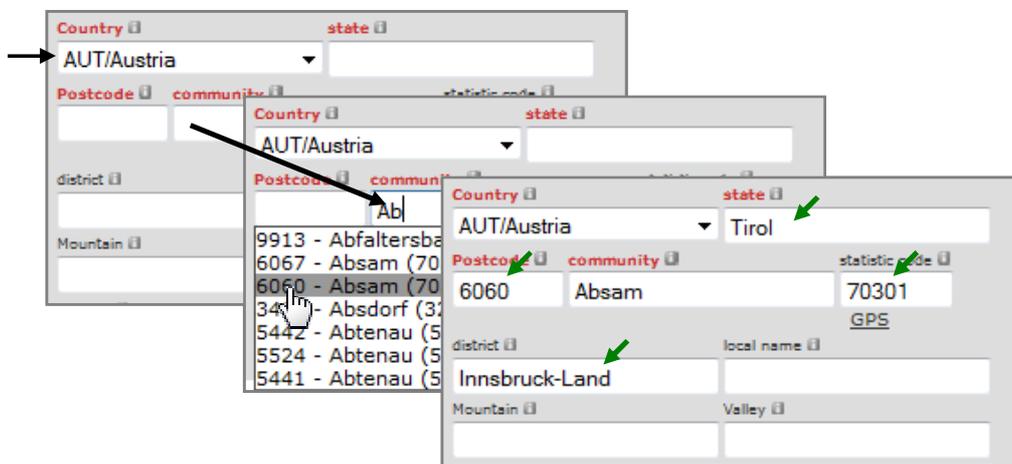
The second action, **create new data**, is the key to enter new information into the Data base. Every specific type of information (observations, reproduction, birds, etc.) has to be stored by using a particular sheet/menu, which is described in detail in the section **2.2.5** of this manual, **Sections of the Data base**. Although as a general rule only the fields highlighted in red are obligatory in order to create a new file, all the information that can be provided might be important and will thus be welcomed. There are also some values automatically assigned that cannot be changed, such as bird ID, nest ID, etc., in which case the field shows a grey background. After saving data, these files can always be accessed to be changed or to add new details by users and Local administrators from the same Collecting Centre, or with granted access (see section **2.2.2.2 Friendship Matrix**). If the modification of a file is not allowed, a message in red will appear at the end of the page with the text “not your data”.

Some of the boxes of the Data base use the Ajax technique, with which it is only necessary to type the first letters of what is intended to be searched, since the system has a list with all the options available (such as bird ID, community where an observation was made, etc.). It might be important to bear in mind that the more that it is written, the more concrete the list gets, but it won't recognize the request if there is any misspelling. If it is not the first time that a search parameter is used, a second list with a summary of older searches will spread over the first one.

→ **NOTE: How to enter information about locations:** When creating a new file in some sections of the Data base, information about the location of the



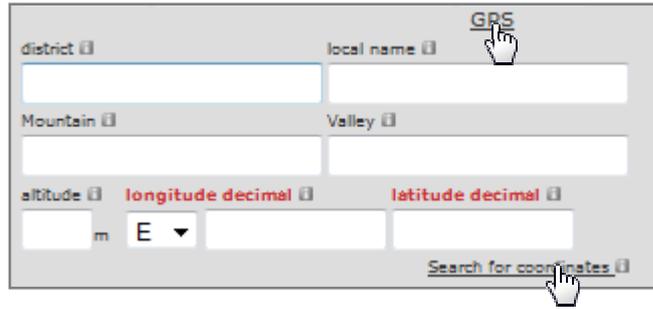
event will be requested. Depending on the sort of file, the request will be more or less specific, but here we give a description of the most extended one. After selecting the country, if this is Austria, Switzerland, France or Italy, the easiest way to fill in this block is by writing the Post code or the Community in the first place, since in order to facilitate the work, the system contains a list of communities and post-codes of these countries, so it recognizes most of the postal codes automatically while typing, and spreads out a list. Depending on the data flow rate of your internet access this may take up to several minutes. You can speed up the process while you continue to complete the whole name of the community. This is not necessary when you fill in the postal or statistical code of a certain place. When eventually an option is chosen from the list, some of other fields (as far as have been available) will be automatically filled, such as “state”, “district” or “statistic code”. The rest of the data, in case there is more, must be entered personally.



**figure 2:** Step-by-step description of how to enter information about locations, providing the Community.

For entering coordinates the user can either press the button “GPS” (see figure 3, which will provide the central coordinates of the community which was chosen from the list (at the field Community), or press the tag “search for coordinates” (see figure 3). The latter opens a Google Maps<sup>®</sup> window. Once in the map, the coordinates are selected by clicking once on the selected spot (e.g. place of observation). Double click zooms in the map. In the upper left corner of the map there are arrows to navigate. After choosing the coordinates in Google Maps<sup>®</sup> the last step is to press the “send” button below the map to transfer them into the IBM Data base. Then the Google Maps<sup>®</sup> window can be closed (**NOTE:** in some browsers after selecting the coordinates, the button “send” might move beyond the lower border of the map page; to solve this problem it is only necessary to maximize the window of the map).





**figure 3:** Screenshot highlighting the buttons “GPS” and “Search for coordinates”

→ **Tips:** Beside most of the strings along the Data base there is an information icon (i). When the cursor is placed over it (not click) a short explanatory message about the string pops up. For Local administrators with “translator” privileges a special sheet will open when clicking on this icon. It shows the original message of both string and info message and gives an opportunity to translate messages into another language.

In some of the strings (where a date is needed) a calendar  symbol appears. When pressed it spreads out a calendar to facilitate the choice of the correct date.

Some of the Manual’s sections’ titles appear in square brackets. This means that they are only present under specific circumstances, which are described in each of them.

## 2.2.5 Sections of the Data base:

### 2.2.5.1 Newsflash .

This option allows the user to check all the newsflashes that have been published since the beginning of the program. There are two different kinds of newsflash: those published by the IBM Administrator, and those published by other users. The menu that appears when entering the Newsflash section offers a series of categories which correspond exclusively to the news published by the Administrator. The newsflashes created by the users (see section 2.2.5.2.1→7 **Newsflash** for information about how to create a newsflash) are not assigned to any specific category and thus appear marked as “untitled”. These files can be accessed by selecting the sign “-“, and pressing “go” so all the newsflashes in the list will appear sorted by date (only option available).



## 2.2.5.2 Observations

This category provides information about all general observations (so to say “common observations”) of bearded vultures in the wild within the IBM Program. There are some observations that should not be stored in this section: Those made of a bird that is part of a couple (territorial birds) and those of chicks that have not fledged yet. The former shall be stored as a Reproduction file (see section **2.2.5.5 Reproduction**), whereas the latter shall be entered as part of the reproduction file of its parents (see section 2.2.5.5.2 → **4 Reproduction key data**)

### 2.2.5.2.1 Create a new observation file:

Every new file refers to the observation of one single individual, even if there were more vultures observed at the same time. In case these birds do not comprise a known couple (see section **2.2.5.5 Reproduction**), a new observation file shall be created for each bird, but linking them to create a **collective dataset** (explained below in this section). [It is recommended to enter observations of both 1) a territorial bird and 2) an unknown floating bird a) as collective observation and b) as dynamic data in the corresponding reproductive data set.]

The sheet to create a new file consists of 7 different blocks:

1. **File:** In this block the serial code (International Code) given to the new file is created automatically, beginning with the letter “O”. Likewise, the date of creation and the person responsible are also produced. This section doesn’t allow any changes by the user.
2. **Area:** See section **2.2.4 General Information** for advice on how to fill in this block
3. **Observation:** The fields “Date of Observation” and “Start” are the only obligatory ones in this block. For information about how to fill in the rest of fields, please, see the info point (i) beside each of the strings.
4. **Bird:** To recognize age characteristics and different plumages, a pdf-file called “Identification Help” can be downloaded (available in French, Italian and German) from the IBM main page (see section **2.1.2 Downloads**). Every bird that has been previously recorded has been given its own name and ID; if a specific individual can be recognized during the observation, its name/ID shall be select from the list that spreads out, but if it is not completely sure it is advisable to write the name in the “eventuality” field (from 1 to 4 in order of likelihood if there are doubts between different birds).
5. **Signs:** Every bird released in the Alps has been given a specific marking pattern (see section **2.1.2 Downloads** for downloading a pdf with the actual identification patterns), consisting of the bleaching of some feathers (that can be distinguished during their first 2/3 years of



life) and coloured rings. In the picture/silhouette shown (see figure 4), the position of the bleaching marks and moulted feathers can be indicated in case they are observed. Just in case the rings have been clearly seen, their colours can also be provided.

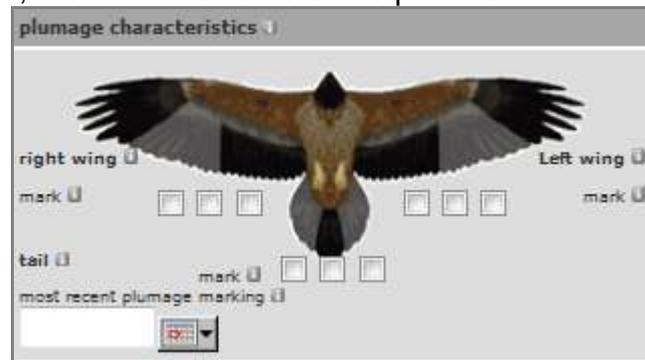


figure 4: Block “plumage characteristics” showing the silhouette of a bearded vulture to indicate the marking pattern

Unfortunately the moulting or marking pattern will not be updated automatically. They are stored with each observation separately. This is because a wrong entry would cause considerable confusion if updated continuously. This means if you want to know more about the actual pattern of a bird query the latest 2-3 entries of the same bird and have a look for the actual signs. Observations with pictures of the bird can be identified by the small photo icon in the list on the left hand side.

- 6. Observers:** When it is the first time that a person gives an observation report, it is possible either to write in this field just the name and surname of the observer, or (strongly recommended) press the button “create” for creating a new observer file (see section **2.2.5.7.1 Create a new Observer**). Once the observer is in the Data base, he/she can be selected from a list by typing the first letters of his/her surname.

The information about an observer can be modified by pressing the button “edit”. If the observation was made by several people it is possible to add up 3 additional observers by pressing the button “add”.

- 7. Newsflash:** In case the user considers that the new observation file might be of interest for the rest of the IBM members, it is only necessary to tick in the box “for newsflash” and so the file will be published on the main page for registered users after being saved.

Once finished entering information, the file can be stored in the Data base by pressing the “save” button. The system automatically checks the information to be saved, and asks if there is something that might be incorrect, as the coordinates (if they are outside of the Alps), or if the observation took place at the same time of another previously saved one and thus might be part of a collective dataset (NOTE: The system assumes that two different observations took place at the same time according to date and time of the observation, but not to the coordinates, so it might propose to link observations that took place simultaneously in



different communities or even countries, so it is advisable to check carefully before clicking “yes” to the question of whether or not the observations might comprise a collective dataset).

Another option given is the possibility of uploading pictures of the event, which everyone can see.

In order to save time when entering several observations from the same site or bird, there is an option to copy the file to facilitate the task of creating a new file.

- **Collective dataset:** When two or more birds, unrelated and non territorial, have been observed together, their observation files must be linked by creating a “collective dataset”. If this is the case, the user must press the button “create” located below the tag “collective dataset”. After pressing this button, a special ID will be assigned for this group of observations, and after saving the information of the first bird, every new file that is consecutively created will be added to that group (see figure 5). To facilitate the creation of the collective dataset, each new file is a copy of the last saved one, so the user just has to make some minor changes (e.g. bird name) before saving. When all the observations of a collective observation have already been entered, but the user wants to continue entering other unrelated observations, it is only necessary to press the “remove” button in the file block (see figure 6). Another option to continue registering unrelated observations is directly by pressing “create a new file” at the upper left hand corner.

In case the user creates a new file for an observation that took place simultaneously with another observation previously saved without specifying that they belong to the same collective dataset, when saving the file the system automatically asks if the observation comprises a collective dataset with the other one. This is another way to create a collective dataset, and actually the only one to add observations to a collective dataset when they have not been saved during the same working session.

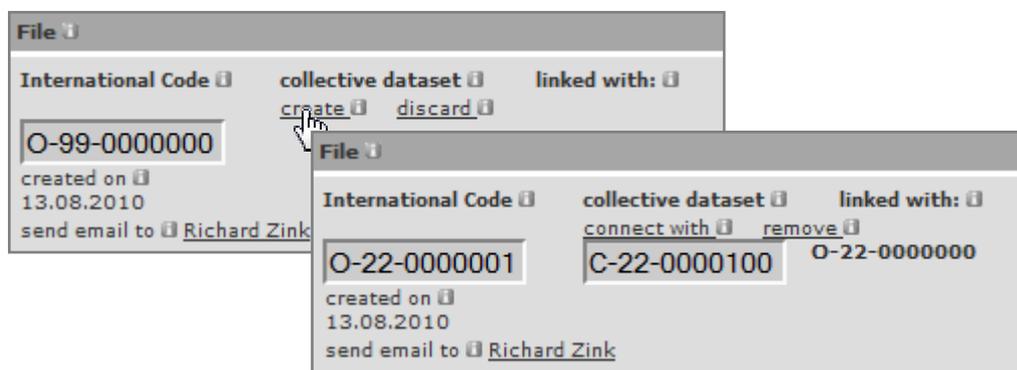


figure 5: Description of how to create a collective dataset



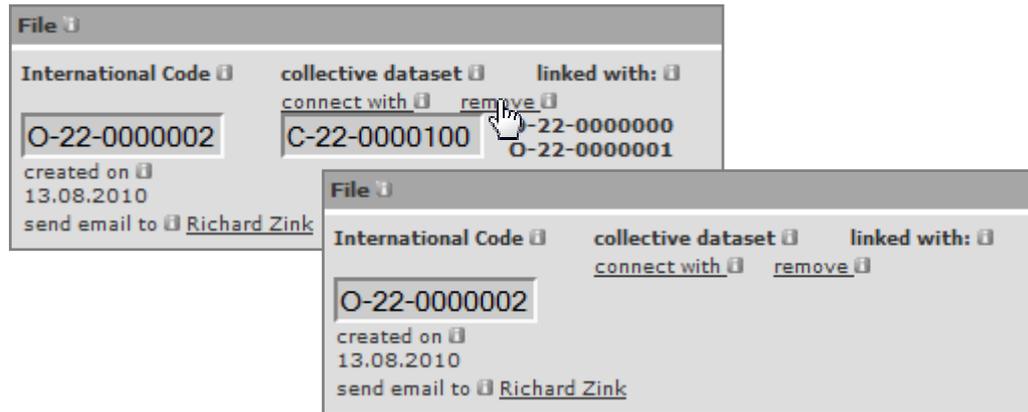


figure 6: Description of how to continue entering new observations unrelated to the previous one

#### 2.2.5.2.2 Search for observations:

If the user needs to find some specific observations it is recommended to define the search parameters, since the whole observations data base is quite extensive. It is necessary to specify at least one field before pressing the “go” button. There are different options to sort out the information:

1. **Bird:** When looking for observations made of a certain bird, it is possible either to type its name or studbook number (see section **2.2.5.3 Birds**). Then the bird can be selected from the list that spreads out. When there is not specification on this field, the result of the search will be a list with all the observations made.
2. **Collecting Centre:** This field is automatically assigned by the system. It shows the Collecting Centre to which the user belongs based on the information in his/her Profile, provided by the IBM Administrator (see section **2.2.5.8 Profile**). A query of the field Collecting centre returns all observations entered by this centre.
3. **Country and Area:** If the user is looking for observations made in a specific country, this one can be selected from the list. When aiming for a certain area (state, community, district or local name but not mountain or valley, it is also possible to write it in the field beside (NOTE: It is important to be careful of the spelling, because there is no list spreading out for this option).
4. **International Code:** When searching for a particular data set, the user can enter its ID.
5. **Date from – to:** To restrict the searching procedure to a certain period of time, it is necessary to enter a start and end date framing the period in which the observation took place.



6. **Sort by:** Regardless of the search criteria that was chosen, with this option the information can be sorted by date (ascending/descending), International Code (of the observation) or ID (ID-number of the birds).
- **[Export observations]:** In particular cases an option to export observations of a single bird to an MS-Excel file can be given by the IBM Administrator. The Administrator can provide such privilege at personal request and under certain circumstances (see section **2.1.5 Contact**).



### 2.2.5.3 Birds

Every individual that has been identified has its own file. This sheet provides information about the identity of the bird, important events (birth, release, death, etc.) and characteristics for further identification.

#### 2.2.5.3.1 Create a new bird file:

There are 2 main types of new birds to be entered in the monitoring program:

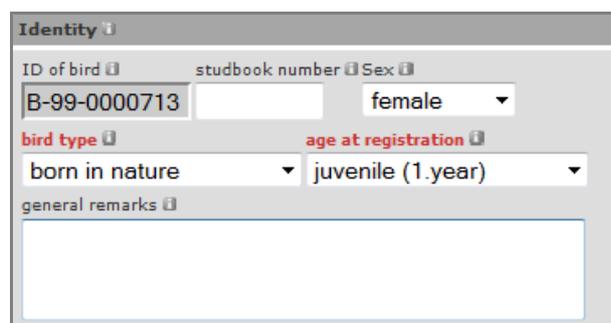
- 1) A wild bird never reported before that can be unquestionably determined (e.g. of a reproducing couple)
- 2) A bird born in captivity and released in the wild.

In both cases a new file must be created giving as much information as possible in order to facilitate future recognition of the bird. Depending on the type of bird different fields turn up to be obligatory (see below).

→ **Important: Unless necessary, only the IBM Administrator should create a new bird file. In case it is necessary to add specific information to a certain bird please ask the IBM Administrator and provide the information for the update.**

The file sheet consists of 8 different blocks:

1. **Identity:** The system assigns an automatic ID to the bird, beginning with the letter “B”. Besides, each bird gets a “studbook number”, to facilitate the handling. In older files, the studbook number corresponds with the last 3 numbers of the ID. Nowadays it just gets a consecutive number. It is obligatory (although it is not highlighted in red) to give “sex” (male/female or unknown), “bird type” and “age” at the moment of registration. For the monitoring project, information about the origin of the bird is essential; these types are “captive breed and released”, “born in nature”, “caught in the wild” and “breeding stock”. For registration of the age class the identification guide (see section **2.1.2 Downloads**) shall serve as a reference. In case the age is not well known the two categories “black head” / ”bright head” can be used to distinguish between juvenile/immature (black head) and subadult/adult (bright head) birds.



The screenshot shows a web form titled "Identity". It contains several input fields and dropdown menus. The "ID of bird" field is filled with "B-99-0000713". The "studbook number" field is empty. The "Sex" dropdown menu is set to "female". The "bird type" dropdown menu is set to "born in nature". The "age at registration" dropdown menu is set to "juvenile (1.year)". There is a "general remarks" text area at the bottom, which is currently empty.

figure 7: Right way to fill in the block “Identity” when creating a new bird file



The next obligatory step is naming the bird; there are 3 different ways (3 independent sub-blocks) to name a bird, but at least one of them must be filled with information:

→ **NOTE:** It is important to know that when something is written in any of the fields of these sub-blocks, it will be necessary to give all the obligatory information in it (see below which information is necessary for each sub-block). Otherwise an error message pops up before saving.

- **Name of the bird:** When a bird has been marked and released in the wild after being raised in captivity, it is given a particular name. If this is the case, the population of origin of this animal should also be indicated, though it is not obligatory. Once the name is written, it is obligatory to give the birth date (+/- x days since/before the event took place) and the place of birth (community).
- **Nickname:** When an unmarked bird displays a distinctive pattern that makes it unmistakably recognizable (e.g. territorial birds), it is referred to by a nickname when mentioned in observations. When nicknaming a bird, also the fields “date of the nicknaming”, “country”, “community” and “coordinates” (see section **2.2.4 General Information** for advice on how to fill in some of the fields) are necessary.
- **Genetic fingerprint:** When a new bird has been identified by DNA analysis (e.g. from a feather) it gets a genetic code, so to say a genetic fingerprint (see section **2.2.5.6**). In this blocks it is also necessary to fill in the fields “date of most recent fingerprint”, “country”, “community” and the coordinates (see section **2.2.4 General Information** for advice on how to fill in some of the fields).

After naming the bird by any of the three ways explained above, there is another sub-block to name the parents of the animal. Both mother and father can be selected in case they have been stored in the Data base in advance. If this is not the case, please, create a new file for the parent/s beforehand.

→ **[Reproduction ID]:** Only for birds born in the wild. This field appears automatically in the lower part of the Identity block, and it shows the ID of the reproduction file of the parents of the bird. When clicking on the text “corresponding reproduction data” the page redirects to the reproduction file of its parents in the season when the animal was born (see section **2.2.5.5 Reproduction**).



figure 8: Example of the Reproduction ID, set of reproduction data



2. **Recapture:** When a bird has been released and recaptured, some information about the event must be given in this block. All fields except “date of last release” and “recapture remarks” are obligatory in this block from the moment the user introduces some information. See section **2.2.4 General Information** for advice on how to fill in some of the fields for the locations.
  
3. **Mortality reason:** In case a bird is found dead, it is of utmost importance to provide some information about this event. All fields except “remarks on mortality” and “+/- days” from the event are obligatory from the moment the user introduces some information. See section **2.2.4 General Information** for advice on how to fill in some of the fields.
  
4. **Plumage Characteristics, Banding with Rings and Wing Tags:** Every bird released in the Alps has a specific marking pattern (see section **2.1.2 downloads** for downloading the actual marking pattern), consisting of the bleaching of some feathers, that can be used for identification during the first 2/3 years of life. Furthermore the birds get coloured rings and might have coloured wing tags (not been used this far). In the silhouette shown, the position of the bleaching marks can be indicated. In case the rings have been clearly seen, their colours/letters/numbers shall be provided. See the info-points (■) beside every field of the block for further information.
  
5. **Telemetry:** In case a bird has been fitted with a radio/satellite transmitter this data bloc serves to store precise information about the transmitter such as frequency, life span etc.
  
6. **Identification tag (e.g. wing tags):** Although identification tags have not yet been used for birds in the Alps they might used in the future.

Once finished entering information, the file must be stored in the Data base by pressing the “save” button. The system automatically checks the information and asks if there is something that might be incorrect, as for instance the coordinates (if they are outside of the Alps), or if the studbook number is already being used by another bird. Another option offered is the possibility of uploading pictures of the individual bird or updating the data (edit).

#### **2.2.5.3.2 Search for birds:**

When looking for specific information, it is possible either to check the whole list (by pressing the “go” button without selecting any option) or refine the search by defining some search parameters:

1. **Bird:** When the user knows the identity of the individual of interest, any of the following items might be written in the “bird” box: ID-number, Studbook number, Name, Nickname or Genotype.



2. **Bird type:** The user might find useful this option to focus the search in some particular group of birds (“captive breed and released”, “born in nature”, “caught in the wild” or “breeding stock”). In case the group of the bird of interest is known, this may also help to restrict the query.
3. **Query date:** By using this option the list of birds can be reduced to files that contain specific dates, such as birth date, date of first flight or mortality date, among others.
4. **Date from-to:** Likewise, the list obtained after specifying a query date can be refined by selecting a period of time during which these events (e.g. date of birth) has taken place.
5. **Sort by:** Regardless of the chosen search criteria, with this option the information can be sorted by date (ascending/descending), International Code (of the observation) or ID (ID-number of the birds).



## 2.2.5.4 Nests

When a new bearded vulture's nest is discovered, it is important to create a new file in the Data base. Not every nest is used every year, and not always by the same pair, so the nest files remain independent of the reproduction files. The nest files basically offer information about the situation of the nests and some characteristics of the surroundings.

### 2.2.5.4.1 Create a new nest file:

Each file consists of 3 blocks:

1. **Basic nest data:** Each new nest file gets an automatic consecutive ID beginning with the letter "N". Every nest should also get a name, as well as a date of discovery and a name of the observer (see section **2.2.5.7 Observers**). Besides, it is obligatory to provide information about the situation of the nest in order to create the file (see section **2.2.4 General Information** for advice on how to fill in some of the fields).

NOTE: We shall remark to be aware that the name of the nest will be shown in the Data base and so it might be seen by many people. Therefore it is very important to select a name that can be communicated in public without causing any risk (e.g. by photographers) for the breeding pair in the wild.

2. **Detailed nest information:** This block is focused on information about the situation of the nest, like the height of the cliff where it is located, main risks to which it is exposed, or geology of the site.
3. **General remarks:** If there is some more information that might be of interest, in this block there is a blank space to take down further notes.

After entering the required data, the nest file must be stored by pressing the "save" button. If any obligatory field has not been filled an error message will appear.

### 2.2.5.4.2 Search for nests:

To search for some nest files its name or ID might be specified. Furthermore it is possible to check for nests of one country in particular and finally sort the results by date, name or ID.



### 2.2.5.5 Reproduction

Reproduction has become a key factor to evaluate the situation of the Alpine bearded vulture population. Since 1997 the species is regularly reproducing in the Alps. There is an increasing number of territories and a positive development of offspring born in the wild accordingly. Within less than 15 years after the first reproduction event, the Alpine population has become self sustaining. In the year 2010 not less than 19 territories have been recorded. However, the species is still highly threatened and reproduction parameters and criteria need to be tracked closely to identify new risks in order to protect the species as efficiently as possible. The reproduction files provide information about the birds that constitute each pair, characteristics of the territory where the nest/s is/are located, key information about reproduction, a list of all each check of the site, pair, chick etc.

#### 2.2.5.5.1 Create a new reproduction file:

As soon as a couples is known to built nest(s) reproduction data shall be entered. Regular monitoring (if site is accessible at least twice a month) shall continue until one month after the chick has fledged. The data of inspection shall be chosen as close as possible to the key points of reproduction (start of incubation, hatching and fledging). Observations shall take place preferable between 10:00 and 14:00 and should last at least 2 hours.

Every breeding season, a new file shall be created for each pair, independently of whether or not they reproduced in former years. Per definition in the data base one breeding season is separated from the following by setting the period from the 15<sup>th</sup> of September to the 14<sup>th</sup> of September of the next year. The Reproduction files are divided in two main sections: **Data to be entered once** and **data to be entered regularly (dynamic data)**. The first section shall be created and edited by a Local administrator (and only in exceptional cases by the IBM Administrator), whereas the second section shall be modified by the Local administrator but handed in by the Users of the corresponding Collecting centre.

#### 2.2.5.5.2 Data to be entered once:

This sheet contains the basic information about the pair and their nest/s. It consists of 6 different blocks:

1. **Pair identity:** When a new file is created, the system assigns automatically an ID to the pair, beginning with the letter "M". The breeding season is assigned automatically as well, once the data is saved and considering the day the file was created; if the user is a Local administrator, it is also possible to select the breeding season manually, just in case it is necessary to add reproduction files of an older season. In this block it is only necessary to give a name to the pair; it is of utmost importance to be careful when naming a pair, since this name will be published and everybody might be able to see it, so it



must not be too concrete if it is referred to the location of the nest (sensitive data!).

2. **Territorial birds:** Information of, at least, one territorial bird (male or female) must be provided for the creation of a file. After selecting the name of the individual from the list that spreads out in the “territorial bird” field, sex (unknown if that is the case) and age of the bird is also required. Once a bird that is already in the list is selected, it is also possible to modify its profile by clicking on the “modification of bird data” tag. Sometimes a “pair” is composed by 3-4 animals (usually one female and several males). In this case additional birds can be added by clicking on the “additional bird” tag. Note: males shall be entered first and females in the second line. If the sex remains unknown the order does not matter.
3. **Nests:** Before the breeding season has started, the pair will prepare one or more nests, either making them new or repairing older ones. If a file for each nest being used by the pair has already been created (see section **2.2.5.4.1 Nest → Create a new file**) the nest can be chosen from a list, but if it has not, it is necessary to create it in advance before filling in this field. This will be of special importance when entering periodic reports (see section 0 → **4 Nests used today**). In case the pair is using more than one nest, it is possible to add additional ones, following the same steps as indicated above for the first nest. After saving the data, the information of the nest/s can be modified directly from here.
4. **Reproduction Key Data:** In this block there is information about the reproduction success of the pair in the current season. If known, it is of utmost importance to add dates of egg laying, hatching, fledging and, if so, breeding failure and its reason. All dates offer the option of adding +/- x days since/before the event took place if the exact date remains unclear. In case of successful reproduction (at least one chick), after saving the data the text “Bird unidentified | please store the information about the young bird” will appear in the “table of offspring” beside the field “number of chicks”. A single click on the text will open a “new bird file” (although it is recommended that this action is carried out only by the IBM Administrator), with its corresponding “reproduction ID”. This “reproduction ID” appears in the “Bird file” of birds born in the wild and is a direct link to the reproduction file of its parents (see section 2.2.5.3.1 → **1 Identity → Reproduction ID**)
5. **Location of Territory:** Shows information about the geographical situation of the territory of the breeding pair (see section **2.2.4 General Information** for advice on how to fill in some of the fields).
6. **Nest climbing:** In some certain cases a member of the monitoring program can physically approach the nest by climbing, e.g. to collect feathers for genetic determination of the parents/the chick. In this case,



information about the date, identity of the climber and some remarks on the nest should be entered.

7. **[Available pictures]:** In case that they were posted, there is a list of images on the right side of the screen.

After entering the required data, the reproduction file shall be stored by clicking the “save” button. If some obligatory field remains empty, the system will display an error message until everything is properly filled. It is always possible to access, copy and modify data of users belonging to the same Collecting centre. For consecutive years, the reproduction sheet “Data to be entered once” can be copied and filled with new information such as new nest, new pair members etc. After saving the reproduction file, the field “Data to be entered regularly (dynamic data)” is activated, so a new sheet appears in the right side (see figure 9)

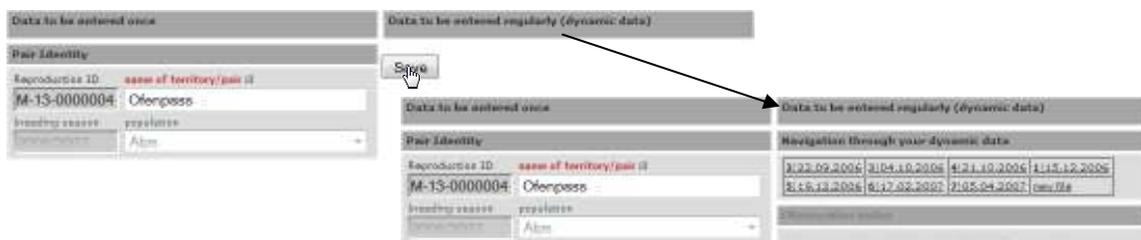


figure 9 : Simulation of the activation of the “dynamic data” section after saving the reproduction file

### 2.2.5.5.3 [Data to be entered regularly (dynamic data)]:

It is of vital importance to report periodic observations of the territories/couples. Observations of general information must be entered at least once a fortnight, with daily inspections at the key dates of egg laying, hatching, breeding failure or first flight. This section is divided in 4 blocks:

1. **Navigation through your dynamic data:** This block contains an index of all the observations that have been saved for the territorial bird/pair previously, each one dated and numbered from 1 on. There is also in this block a button with the tag “new file”, that allows the user to add new observations, which appears once at least one observation report has already been saved.
2. **Observation today:** In this block only the fields “date of observation” and “start” are obligatory. The name of the observer is of interest because it might occur that the observer has to be contacted (see section 2.2.5.2.1 **Create a new observation file** → **6 Observers**).
3. **Behaviour today:** Here the behaviour of the bird/pair members can be described (see section 2.2.5.5.2 **Data to be entered once** → **2 Territorial birds**). There is a matrix with the 6 main behaviours that a bird usually shows, that can be linked to one or both of the birds by a simple click. When a bird has been present in the nest that day, the



user has to tick in the “yes” box and then describe its behaviour by ticking in the right box/boxes (see figure 10).

- Nests used today:** In this block it is possible to report whether or not each of the nests that were given before (see section 2.2.5.5.2 **Data to be entered once** → **3 Nests**) were used.

The screenshot shows a web-based data entry form. The top section is titled "Behaviour today" and contains a bar chart with seven categories on the y-axis: nest construction, Copulation, Feeding the chick, territory defence, Courtship, and incubating. The bars show a decreasing trend from left to right. Below the chart is a table with two columns: "bird names" and "present today". There are two rows of data: "Livigno (W08) ID: B-01-0000008" and "Retia (357) ID: B-01-0000357". Each row has a "yes" radio button (selected) and a "no" radio button, followed by seven checkboxes corresponding to the behavior categories. The bottom section is titled "nests used today" and has a table with "nest names" and "used today" columns. One row is visible: "Serraglio 1 - ID: N-13-0000054 (Müstair)" with a "yes" radio button (selected) and a "no" radio button.

figure 10: Screenshot showing an example of how to fill in the blocks “behaviour today” and “nests used today”

Once finished entering information, the file must be stored in the Data base by pressing the “save” button. The system automatically checks the information and asks if there is something that might be incorrect or some data are missing. There is also the option to upload pictures, which can be uploaded in \*.jpg, \*.gif and \*.tif format by pressing the “upload image” button beside the “copy” button.

#### 2.2.5.5.4 Search for Reproduction Files:

When looking for specific information, it is possible either to check the whole list (by pressing the “go” button without selecting any option) or refine the search by defining some search parameters. The options available to refine the list are “name of territory/pair”, “breeding season” and “country”, and the result can be sorted out by ID-code, Country, Name or Season.



## 2.2.5.6 Genetics

The use of genetics in modern conservation programs is a relatively new tool that is becoming more and more important, if not essential, for the monitoring and management of the bearded vulture population. This technology is making it possible to reach goals that seemed inconceivable decades ago, such as determining the family tree of almost the entire Alpine bearded vulture stock. Furthermore it gives the option to identify unknown individuals (e.g. birds born in the wild) by a single feather.

### 2.2.5.6.1 Create a new genetic file:

It is very important to create a file for each biologic sample found in the wild. The samples intended to be analyzed can be marked in the Data base. This kind of information can be checked directly by Dr. Barbara Hefti, responsible of the genetics section of the IBM. Thus she knows about the arrival of samples in advance.

Every file consists of 4 blocks:

- 1. Circumstances of discovery:** When a new file is created, the system assigns an automatic Genotype-ID to the file beginning with the letter "G". The rest of the information must be provided by the User/Local administrator. After entering the name of the observer (that in this case acts as sampler) it is also possible to edit his/her Observer file in case this is already stored in the Data base (see section **2.2.5.7 Observers**). To give the location where the sample was found it is necessary to provide Country, State, Post-code and Community, as well as the coordinates (see section **2.2.4 General Information** for advice on how to fill in some of these fields).
- 2. Notes:** Although this field is not obligatory, every piece of information that in the opinion of the sampler could be remarkable is welcome.
- 3. Analysis:** In case the sample is intended to be analyzed the user should tick the box "We commission Dr. Hefti to analyse this sample!" and then provide a delivery date when the sample was sent to Dr. Hefti and an e-mail address to which the result shall be e-mailed.
- 4. Results:** This block shows the results of the genetic analysis and can only be modified by Dr. Hefti. In case the sample is identified as belonging to a bird that was already registered in the Data base, the fields "Select identified bird", "Bird ID" and "Studbook number" will be filled in by the geneticists; if the bird had not been recorded before, they would assign it a new name in the field "Genotype", starting with the letters GT, and will be named as "Unknown" in the field "Select identified bird". The sex of the bird will also be provided regardless of the identity of the bird. In the "remarks about the results" field there will be additional information about the bird, like the probable parenthood or kinship with other birds of the Data base.



**results**

Genotype  
GT025

Select identified bird:  
unknown

Bird ID      studbook number       Sex   
            male

remarks about the results  
offspring of BV019/BV021

figure 11: Example of the result of a genetic analysis

#### 2.2.5.6.2 Search for genetic files:

When looking for specific files, is it possible either to press the “Go” button and select directly from the list that appears below, or to define some search parameters (e.g. genotype or bird ID, type of sample, etc.).



### 2.2.5.7 Observers

The majority of data gathered within the Alpine bearded vulture program goes back on the remarkable efforts made by thousands of voluntary observers. In this respect data of the observers is of extraordinary high value for the IBM. Thus it is recommended to store name, address and especially email of each of the observers. Unless at least the name of an observer is stored in the system, it has to be re-entered every time a new observation of the same observer is received.

#### 2.2.5.7.1 Create a new file:

When creating a new Observation, Reproduction or Genetic file, the name of an observer is required. Although it is not always necessary that every observer has his/her own file in the Data base, it is important to manage an observer data base, for instance in case the need to contact a certain observer arises. There is no obligatory field when creating an observer's profile, but every piece of information might be of use later on. The Observer profile is divided into 4 blocks:

1. **Observers ID:** There are two fields in this block: the automatically generated ID that the System assigns to the observer, starting with the letter "A", and the Collecting centre to which it belongs, that is also automatically assigned. Thus data of an observer will be owned by the Collecting centre storing it first (in special cases it might make sense to enter a name twice by different Collecting centres).
2. **Observer:** General information about the observer, as his/her Title, full name, profession and general remarks if necessary.
3. **Salutation:** This block is of interest for contacting the observer, stating Gender, form of address, or language. The fields reliability and observer state are intended to be filled by the Local administrator or user (when it is a different person from the observer). They refer to the reliability of the observer (1 being the most experienced and most active and 4 being involved less intensive).
4. **Address:** Information about the current address of the Observer and other contact ways. This is important in case questions for the observation arise and the Observer shall be contacted again.

Once finished entering the information, the file must be stored in the Data base by pressing the "save" button. The system automatically checks the information and asks if there is something that might be incorrect.

#### 2.2.5.7.2 Search for an Observer:

In this section the only possibility to find an Observer is by typing his/her name or family name, although the latter is more reliable. At the moment there is no way to navigate through the Data base. This might



be a useful upgrade in the future in order to look for someone in particular in case the full name of the Observer remains unknown to the user.

### 2.2.5.8 Profile

In this section the user or Local administrator can modify his/her own user's profile, which was created originally by the IBM Administrator. The file is divided into 5 different blocks:

1. **Name:** Basic information as Gender, Full Name or Company. When the profile was created, an ID number was assigned to it, as well as the name of the corresponding Collection centre (see sections **2.2.2.1 Collecting centres** & **2.2.2.2 Friendship matrix**)
2. **Data base access & Settings:** In this section some conditions of the access to the Data base can be modified (e.g. user name and password or language). User limitations in access etc. are assigned by the IBM Administrator and cannot be changed by the user itself.
3. **Additional access:** Only necessary when the user has been granted special access to translations or/and genetic files. Such access is generally granted only temporarily.
4. **Address:** Contact information about the user; it is of utmost importance to keep this information (especially the email address) updated.
5. **Start points for Google maps<sup>®</sup>:** A start point is a location set by the User/Local administrator, which main function is to give a quick overview (map) on the main location/s used by the user (local monitoring area). It need not be too accurate, but just an approximate position. Every new start point (up to 5 possibilities) gets a different name and is defined by the central coordinates and a certain zoom level. When pressing the "create start point", a map (powered by Google<sup>®</sup>) opens; when clicking once on the map, the coordinates of the point and the zoom level of the map appears in the lower part of the map. Double click zooms in the maps. In the upper left corner of the map there are arrows for navigation. When the selected coordinates are chosen, the window can be closed and the coordinates and zoom level appear in the start point field.

→ **NOTE: The Start point function does not work properly with the browser Mozilla Firefox<sup>®</sup> 3.6 (and perhaps other versions)**

After finishing the modification of the data, the changes must be saved in the Data base by pressing the "save" button (German "speichern") before closing the application.



### 2.2.5.9 Log out

Once finished the work session with the Data base, the only remaining action is to press this button to log out. Likewise, if the user does not make any action for about half an hour, the system finishes the session automatically to avoid data abuse during your absence from the computer. In such a case please log in again to continue working.

→**NOTE:** if the file the user was working in was not saved before being logged out, the information will be lost – our advice: be cautious!

