9th International Bearded Vulture Observation Days

October 11th 2014 (period: 11th-19th of October)

Dominique Waldvogel and Richard Zink

A cooperation within the International Bearded vulture Monitoring (IBM)

The project partners:

Nationalpark Hohe Tauern
LPO Grands Causses
Parc Nationale du Mercantour
Parco Naturale Alpi Marittime
Parc National les Ecrins
Parc National de la Vanoise
Parc Naturel regional du Vercors
Regione Autonoma Valle d’Aosta & Parco Nazionale Gran Paradiso
A.S.T.E.R.S. (Conservatoire des l’espaces naturels Haute-Savoie)
Provincia di Sondrio, Ufficio Faunistico
Parco Nazionale dello Stelvio / Nationalpark Stilfserjoch
Stiftung Pro Bartgeier / Fondation Pro Gypaète

Supervised by

Vulture Conservation Foundation
# CONTENTS

1. Introduction .......................................................................................................................... 3

Preface .................................................................................................................................... 3

Observation Protocol and Data Analysis .................................................................................. 3

Weather conditions .................................................................................................................. 4

2. Results ..................................................................................................................................... 6

Monitoring effort and coverage ................................................................................................. 6

Observation success .................................................................................................................. 6

   *Overview* .............................................................................................................................. 6

   *Observations at the regional scale* ...................................................................................... 7

Proportion of age classes .......................................................................................................... 9

Identified individuals ................................................................................................................. 11

Estimate of population size ...................................................................................................... 12

   *Estimate of the total number of individuals observed during the IOD* .............................. 12

   *Telemetry data during the IOD* ............................................................................................. 12

   *Overview of Bearded Vulture population* .......................................................................... 13

3. Outlook .................................................................................................................................... 14

4. Acknowledgements ............................................................................................................... 14

Participants/Observers 2014 .................................................................................................... 15
1. Introduction

Preface
The 2014’s international survey was held between the 11th and the 19th October with the focal day on Saturday 11th. The buffer period of one week is chosen in order to allow some flexibility for areas where the weather conditions are not suitable on the focal day. All dates are decided on mutual agreement among the partners and takes into account partner's availability, other ornithological appointments and bird's reproductive behavior. The fact that bearded vultures are active in nest building make this a suitable period to observe the birds and record possible new territories and breeding pairs.

This survey consists in an international gathering of observers to monitor the Bearded Vulture (BV) populations in the Alps as well as representing a wide-spread public event to sensibilize awareness of the current status of this species and continues to raise more and more participants as it becomes a birdwatching tradition throughout the years gathering over 630 observers in 2014.

The monitoring is planned and is executed simultaneously over all the alpine territories (see Fig. 1) by local administrators and ultimately allows us to gain information about bearded vulture presence simultaneously on over 400 different points in the Alps avoiding/reducing the chance of double counts and allowing us to get the big general picture about bearded vulture coverage.

The area covered by the observers during the IOD has increased over the years, still is has not been possible to cover the complete Alpine range (~188.000 km²) simultaneously. However, the main purpose of the IOD remains to try to assess the evolution of the population on a regional scale as well as trying to determine the whole bearded vulture population over the complete territory of the Alps.

Fig. 1: IBM Partners taking part to the International Observation Days

Observation Protocol and Data Analysis
The survey took place between 10:00 and 15:00. For each observation site and bearded vulture sighting following information was recorded:
Observation site:  Bird observation:
- date  - date
- team/partner  - time and duration of the observation
- post name, address and coordinates  - coordinates of the observation
- post occupancy (observation time)  - distance to the observer, flight height and direction
- weather conditions  - age of the bird*
- total number of observed bearded vultures  - bird name / hypothesis
- presence/observation of other species  - picture
- observers names

* The identification of the birds was done accordingly to the protocol available under the downloads at the IBM website and the booklet by the Natural History Museum of Crete and the Hellenic Ornithological Society.

The teams are ideally composed by two or more observers, at least one of them being experienced, equipped with binoculars and, depending on availability, telescope and camera.

All data is collected at the end of the day by the local administrator and send to the IBM to be merged for an independent analysis over the whole Alpine range. Some of the partners also analyze the data in their team providing already the IBM with an estimation of the total number of birds observed on a local scale. In this case, both the results obtained by the partners and by the IBM are taken into account and integrated into one estimate.

Since not in all cases it is possible to assess with certainty the identity of a bird, this final estimate includes a minimal and a maximal count number, namely accounting for a more strict versus a less conservative analysis.

Following the estimation of the number of sighted bearded vulture individuals, also the estimate of BV total population size will be calculated according to literature (Michael Schaub et al., Journal of Applied Ecology, Volume 46, Issue 1, pages 92-100, February 2009, “When to end releases in reintroduction programs: demographic rates and population viability analysis of bearded vultures in the Alps”) and compared to the IOD results.

All maps produced for this report show slightly translated points (around 500m from the original GPS data).

Weather conditions
Meteorology is a non-predictable variable, which strongly affects the success and final account of the International Bearded Vulture Observation Days. Weather conditions like strong rain or snowfall can limit accessibility to some of the observations sites and clouds or fog can affect the observer’s chance to see bearded vultures by compromising visibility as well as possibly lowering the activity of the birds in unfavorable meteorological conditions.

Unfortunately, the meteorological conditions on the focal day were not ideal, a big part of the Alpine range being subjected to fog and rain and altogether bad visibility (Fig. 2 and 3), with the least favorable weather being found in the South and Western parts of the Alpine range. This hindered some of the partners on their observation efforts and can therefore at least in part explain this year’s regionally low bearded vulture observation numbers.
Fig. 2: General overview of continental meteorological conditions on the focal day, 11. October 2014 at midday (taken from Worldview hearthdata.nasa.gov).

Fig. 3: Close-up look on the meteorological conditions in the Alps on the focal day, 11th October. Almost all partners were affected by poor weather conditions.
2. Results

Monitoring effort and coverage
In 2014, a total 634 observers have occupied 415 observation sites spanning throughout the Alps (Fig. 4 and Table 1). Like the previous year, the Western regions of the Alps remain the most thoroughly surveyed areas together with the Area of the Stelvio National Park in the North Italy.

![Map of the Alps and location of all observation sites during the IOD 2014. The squares represent different Alpine regions as described in the legend. Blue circles depict those sites where a BV has been observed at least once during the IOD period 11.-19. October.](image)

**Table 1:** Number of observation sites (Sites) and observers (Obs) for each region during the IOD 2014. On the right column the results of the previous year for comparison. The colors represent the four Alp regions (green: Eastern, blue: Central, red: North-Western, yellow: South-Western, brown: corridor region).

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>IT</th>
<th>CH</th>
<th>CH</th>
<th>CH</th>
<th>FR</th>
<th>IT</th>
<th>FR</th>
<th>FR</th>
<th>FR</th>
<th>IT</th>
<th>FR</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obs</td>
<td>28</td>
<td>175</td>
<td>16</td>
<td>14</td>
<td>39</td>
<td>67</td>
<td>59</td>
<td>49</td>
<td>61</td>
<td>62</td>
<td>53</td>
<td>11</td>
<td>634</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2013</td>
</tr>
</tbody>
</table>

Observation success

**Overview**

From these sites, 226 BV sightings have been made during the whole period (Fig. 5), 184 during the focal day (Table 2).
Fig. 5: Maps of all BV observations made during the full IOD period divided by birds’ age class. White circles indicate birds of unidentified age class.

Table 2: Number of bearded vulture sightings for each region during the whole IOD period. In the orange box the results for the focal day.

Observations at the regional scale

The following figures 6-10 show the observations at the regional level and give a more detailed overview on BV distribution during the whole observation period.
Fig. 6: South Massif Central (Corridor Region), distribution by age class. Overlapping observations of 3 immature and 1 juvenile known birds were made.

Fig. 7: South-Western Alps, distribution by age class.

Fig. 8: North-Western Alps, distribution by age class.
Proportion of age classes

During the IOD all observed Bearded Vultures are recorded independently of their age. Therefore, looking at the total number of observations during the IOD it is possible to get the general overview on age class distribution, which should be representative of the general Alpine Bearded Vulture population.

Most of the birds observed during the IOD were adults followed in numbers by the juveniles and immatures (Table 3). In fact, similarly to last year’s results, the proportion of sighted birds aged 5 years or older (potentially in age to establish a territory) reaches 2/3 of the total number of observations.
These results were compared to the expected number of living individuals per age class derived by the demographic model designed by Schaub et al. (2009). According to this model, in 2014 the population of BVs in the Alps should amount to 210 individuals (Table 4).

From the IOD observation data (Table 3) we can observe that the two extremities of the age classes are better represented and/or more likely to be detected. In fact, the percentage of juveniles observed during the IOD coincides quite well with the estimated percentage from the demographic model (Table 4). On the contrary, the percentage of immatures and subadults is highly underestimated by the results of the survey. As a compensation, the percentage of observed adults is higher than in the estimate. These results are in contrast with the results of the previous year (2013) in which the number of observed birds for the two grouped age classes, namely birds under 4 years of age and birds older than 4 years, was consistent with the model.

There are multiple and additive explanations for these discrepancies.

- In general it is considered difficult for non professional ornitologist to identify the age of young vultures and could therefore represent the number of observation under the category “unknown”.
- The same is true for subadults of the 4-5 year of life which can be more difficult to discern.
- Immature birds can moreover be more difficult to detect as they are not territorial but show a dispersive behaviour, which can take them to more remote and non monitored areas.
- More stable birds (adults) might be easier to recognise, detect and monitor as they settle into a region and are territorial. In addition, many observation points were in the core area of known breeding units.
- Juveniles are also easier to detect as they are easier to discern from the other age classes and often the parents have already been detected by rangers and the territory is therefore regulary visited.
- Another addition is that released birds up to 2 to 3 years can be identified individually thanks to the visible markings. Hence also the age class can be determined.
Identified individuals

During the IOD around 48 individuals could be identified with high probability, mostly territorial birds and their chicks (Table 5). This accounts for 23% of the total estimated population size (210 individuals, from the demographic model).

<table>
<thead>
<tr>
<th>Name</th>
<th>Territory</th>
<th>ID</th>
<th>Birth date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dario Zebrù</td>
<td>Chick Zebrù</td>
<td>W143</td>
<td>01.01.2014</td>
</tr>
<tr>
<td>2 Felice</td>
<td>Zebrù</td>
<td>BG375</td>
<td>02.03.2001</td>
</tr>
<tr>
<td>3 Unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>4 Unknown</td>
<td>Martello</td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>5 Unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>6 Cic</td>
<td>Livigno</td>
<td>BG186</td>
<td>Adult</td>
</tr>
<tr>
<td>7 Unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>8 Andrea Livigno</td>
<td>Chick Livigno</td>
<td>W152</td>
<td>13.03.2014</td>
</tr>
<tr>
<td>9 Michegabri</td>
<td>Chamoussière</td>
<td>BG488</td>
<td>07.02.2006</td>
</tr>
<tr>
<td>10 Unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>11 Costa</td>
<td></td>
<td>BG757</td>
<td>03.03.2013</td>
</tr>
<tr>
<td>12 Kira</td>
<td></td>
<td>BG626</td>
<td>11.03.2010</td>
</tr>
<tr>
<td>13 Rocca</td>
<td>Source de la Tinée</td>
<td>BG516</td>
<td>20.02.2007</td>
</tr>
<tr>
<td>14 Girasole</td>
<td></td>
<td>BG549</td>
<td>16.02.2008</td>
</tr>
<tr>
<td>15 Stephan</td>
<td></td>
<td>BG616</td>
<td>01.03.2010</td>
</tr>
<tr>
<td>16 Balthazar</td>
<td>Bargy</td>
<td>BG099</td>
<td>17.02.1988</td>
</tr>
<tr>
<td>17 Assignat</td>
<td></td>
<td>BG111</td>
<td>01.04.1989</td>
</tr>
<tr>
<td>18 Bellemotte</td>
<td></td>
<td>BG708</td>
<td>01.03.2012</td>
</tr>
<tr>
<td>19 Veronika</td>
<td>Sixt Fix</td>
<td>BG321</td>
<td>23.02.1999</td>
</tr>
<tr>
<td>20 Montblanc</td>
<td></td>
<td>BG361</td>
<td>12.03.2000</td>
</tr>
<tr>
<td>21 Unknown</td>
<td>Peisey-Nancroix</td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>22 Unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>23 Swaro</td>
<td>Derborence_down</td>
<td>BG459</td>
<td>17.02.2005</td>
</tr>
<tr>
<td>24 Gilbert</td>
<td></td>
<td>BG440</td>
<td>04.03.2004</td>
</tr>
<tr>
<td>25 Cham</td>
<td>Chick Derb._down</td>
<td>W102</td>
<td>10.05.2011</td>
</tr>
<tr>
<td>26 Pablo</td>
<td>Derborence_Vérouet</td>
<td>BG359</td>
<td>04.03.2000</td>
</tr>
<tr>
<td>27 Guillaumes</td>
<td></td>
<td>BG411</td>
<td>17.02.2003</td>
</tr>
<tr>
<td>28 Michel</td>
<td>Chick Derb._Vérouet</td>
<td>W144</td>
<td>24.02.2014</td>
</tr>
<tr>
<td>29 Diana-Valais</td>
<td>Leukerbad</td>
<td>BG301</td>
<td>13.03.1998</td>
</tr>
<tr>
<td>30 unknown</td>
<td></td>
<td></td>
<td>Adult</td>
</tr>
<tr>
<td>31 Moische-Livigno</td>
<td>Sinestra</td>
<td>W11</td>
<td>24.03.2002</td>
</tr>
<tr>
<td>32 Samuel</td>
<td></td>
<td>BG526</td>
<td>16.03.2007</td>
</tr>
<tr>
<td>33 Martell or Zebrù</td>
<td>Tantermozza</td>
<td>BG395/W12</td>
<td>2002</td>
</tr>
<tr>
<td>34 Sardona</td>
<td></td>
<td>BG624</td>
<td>01.03.2010</td>
</tr>
<tr>
<td>35 Diana-Stelvio</td>
<td>Albula</td>
<td>W07</td>
<td>16.03.2000</td>
</tr>
<tr>
<td>36 Unknown</td>
<td></td>
<td></td>
<td>adult</td>
</tr>
<tr>
<td>37 Glocknerlady</td>
<td></td>
<td>BG718</td>
<td>17.03.2012</td>
</tr>
<tr>
<td>38 Felix 2</td>
<td></td>
<td>BG793</td>
<td>16.02.2014</td>
</tr>
<tr>
<td>39 Pinzgarus</td>
<td>Gschlöß</td>
<td>BG558</td>
<td>05.03.2008</td>
</tr>
<tr>
<td>40 unknown</td>
<td></td>
<td></td>
<td>adult</td>
</tr>
<tr>
<td>41 Andreas Hofer</td>
<td>Gestein/Rauris</td>
<td>BG260</td>
<td>26.02.1996</td>
</tr>
<tr>
<td>42 GT015</td>
<td></td>
<td></td>
<td>adult</td>
</tr>
<tr>
<td>43 Kruml 3</td>
<td>Chick Gestein/Rauris</td>
<td>W136</td>
<td>08.03.2014</td>
</tr>
<tr>
<td>44 Jakob</td>
<td></td>
<td>BG676</td>
<td>24.03.2011</td>
</tr>
<tr>
<td>45 Hubertus 2</td>
<td>Katschberg 2</td>
<td></td>
<td>04.04.2004</td>
</tr>
</tbody>
</table>
Table 5: Summary of the birds identified during the IOD 2014.

<table>
<thead>
<tr>
<th>Female Pair</th>
<th>Katschberg</th>
<th>Adult</th>
<th>08.03.2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layrou</td>
<td>BG761</td>
<td>15.02.2014</td>
<td></td>
</tr>
<tr>
<td>Adonis</td>
<td>BG794</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Also, 6 new birds were released in 2014, Noel-Leya (BG 797) and Schils (BG 802) in Calfeisental (CH), Kilian (BG 790) and Felix 2 (BG 793) in Hohe Tauern (A) and Adonis (BG 794) and Jacinthe (BG 795) in Grands Causses (F). Only Adonis and Felix 2 have been reported (sighted and recognized) during the IOD.

Estimate of population size

Estimate of the total number of individuals observed during the IOD

Although the total amount of observations gathered during the IOD can be used as an indicative of the presence of Bearded vultures in the Alpine range, due to the high mobility of the species it is not possible to use data from the whole week. In order to omit the possibility of double counting birds and to create a more accurate picture of the Bearded Vulture distribution, only observations from the focal day were used to determine the approximate number of birds. Moreover, by taking into account the maximum flight speed for Bearded Vultures (Boudoint, 1976), the observations reported were evaluated and analysed considering direction of flight (when provided), observation time, approximate flying distance and any other important information provided (such as distinctive marks on an individual) so as to discard any possible double counts of individuals. The resulting total estimated number of sighted BVs is of minimum 87 and maximum 95 individuals (Table 6). These numbers are very similar to the results obtained during the IOD 2013, which were also subjected to poor weather conditions.

Estimation of population size

Table 6: Estimates of minimal (conservative) and the maximal (optimistic) number of BVs present in each region during the IOD 2014. On the right column the results of the previous year for comparison. The colors represent the four Alp regions (green: Eastern, blue: Central, red: North-Western, yellow: South-Western, brown: corridor region).

<table>
<thead>
<tr>
<th>AUT</th>
<th>ITA</th>
<th>CH</th>
<th>CH</th>
<th>CH</th>
<th>FRA</th>
<th>ITA</th>
<th>FRA</th>
<th>FRA</th>
<th>FRA</th>
<th>ITA</th>
<th>FRA</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>12</td>
<td>13</td>
<td>5</td>
<td>1</td>
<td>12</td>
<td>11</td>
<td>4</td>
<td>11</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Max</td>
<td>14</td>
<td>13</td>
<td>5</td>
<td>1</td>
<td>16</td>
<td>11</td>
<td>4</td>
<td>13</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Telemetry data during the IOD

During the observation period also the GPS positions of young Bearded vultures with satellite tags have been retrieved (see Fig. 11). Although this data is not part of the IOD, this information is collected as representative of their positions and to detect areas of monitoring deficiencies. Most of these birds still show their individual marking patterns (bleached feathers) and can therefore be identified by observers. During this year’s IOD Glocknerlady, Felix 2 and Kira could also be sighted by observers.
Overview of Bearded Vulture population

The estimate of total population size is the sum of three values, the number of observed individuals extracted from the analysis of the IOD sightings as described above (Table 6), the additional unsighted known territorial birds and the GPS tracked individuals that have not been observed during the count. The number of territorial birds not observed (or not observed with certainty) during the IOD was between 19 and 29. The number of GPS birds not seen was of 6. The total population number would therefore sum up to a minimum of 112 and a maximum of 130 different Bearded Vulture individuals (Table 7).

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimation from observations</td>
<td>87</td>
<td>95</td>
</tr>
<tr>
<td>Unsighted known individuals</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>GPS-tagged &amp; unsighted</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>TOTAL 2014</strong></td>
<td><strong>112</strong></td>
<td><strong>130</strong></td>
</tr>
<tr>
<td><strong>TOTAL 2013</strong></td>
<td><strong>117</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

Table 7: Estimate of total number present in the Alps from the results of the International Observation Days, reproductive data and GPS tags

These are very similar as the previous year despite the bad weather. Even though these values are lower than the estimate from the demographic model (210), they still represent the 62% (same as in 2013), meaning that more than half of the total population could be detected. The actual total number of the population, however, is most likely higher than the maximum of individuals that were observed and the missing 38% could be explained partly by the bad weather during the IOD, and possibly also the lower activity of the birds, and the impossibility to monitor all areas of the Alps. The number of counted birds
during the IOD is thus best used as a model for population trends and to be compared between years rather than directly and solely for population size estimation.

3. Outlook

The IBM steering committee at the Annual Bearded Vulture Meeting 2014 fixed the date for the next International Observation Day: **Period 3.-11. October, Focal Day is the 10th of October 2015.**

Even though for public communication again a period was chosen we would like to stress the importance of focused observation intensity. Observations can be cumulated only within the core period. Therefore the count by specialists shall be carried out only during the focal day.

The focal time for the count starts at **11 AM (11:00 GMT+1) until at least 3 PM (15:00 GMT+1)**.

4. Acknowledgements

**Special thanks go to the IBM members for the organization of the census on the regional level and the international cooperation on the bordering areas.**

Special thanks also go to the following people and institutions:

- The Hohe Tauern National Park (Ferdinand Lainer, Gunther Gressmann & Michael Knollseisen)
- LPO Grands Causses (Raphaël Néouze)
- Mercantour National Park (Monique Perfus & François Breton)
- Alpi Maritime Nature Park (Luca Giraudo & Laura Martinelli) and the Western Italian Observation Network WAON including the Parco Naturale Alpi Cozie, Gruppo Aquile e Avvoltoi delle Valli di Lanzo and the Comunità Montana Valle Pellice
- Ecrins National Park, Dauphiné observer network (Christian Couloumy)
- The Vanoise National Park (Michael Delorme, Henri Suret, & Mylène Herrmann)
- The Regional Natural Park Vercors and Partners (Benoît Betton, Bruno Cuerva) with the observer network of Vautours en Baronnies and LPO07 in the Ardeche region
- Regione Valle d’Aosta (Christian Chioso), Natural Park Mont Avic (Massimo Bocca) and the Gran Paradiso National Park (Achaz von Hardenberg & Martino Nicolino)
- ASTERS (Marie Heuret & Etienne Marlé)
- The Ufficio Faunistico of the Provincia di Sondrio (Maria Feroni)
- The team of Stelvio National Park (Enrico Bassi & Luca Pedrotti, Natalia Bragalanti, Andrea Buffa, Daniela Praolini) as well as the team of Klaus Bliem in Southern Tyrol
Our gratitude to The Vulture Conservation Foundation and ALPARC for the scientific supervision and for setting the framework of the unique Alpine collaboration.

Last but not least, our sincere thanks to the lead partner of the International Bearded Vulture Monitoring: the Hohe Tauern National Park, which has financed a major part of the IBM for many years.

Numerous people participated and supported the International Bearded vulture monitoring event in the year 2014. Some of them could not be mentioned or remained unknown to the IBM office. We acknowledge them just as much as those observers mentioned in the long list that follows.

**Participants/Observers 2014**

<table>
<thead>
<tr>
<th>Abgottspon Brigitte</th>
<th>Bardey Maryse</th>
<th>Bimont Sylvain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adami Ivano</td>
<td>Bardonecchia CFS</td>
<td>Biollaz François</td>
</tr>
<tr>
<td>Adrion Alain</td>
<td>Barras Arnaud</td>
<td>Biscontini Paolo</td>
</tr>
<tr>
<td>Albano Domenico</td>
<td>Bärtsch Artur</td>
<td>Blanchetti (ranger) Luciano</td>
</tr>
<tr>
<td>Albert-Gondran Thierry</td>
<td>Baruffetti Milena</td>
<td>Blanchin Hervé</td>
</tr>
<tr>
<td>Alberti Silvia</td>
<td>Bassi Enrico</td>
<td>Bloc Alain</td>
</tr>
<tr>
<td>Althaus Sarah</td>
<td>Basso N.</td>
<td>Blois Wilfried</td>
</tr>
<tr>
<td>Andreola Chiara</td>
<td>Basso Remo</td>
<td>Boessneck Anna</td>
</tr>
<tr>
<td>Andretta Stefano</td>
<td>Battaglia Angelo</td>
<td>Boetto Enrico</td>
</tr>
<tr>
<td>Andrieux Roselyne</td>
<td>Batti Gai</td>
<td>Bois Giacinta</td>
</tr>
<tr>
<td>Antoine Élodie</td>
<td>Bazzi Gaia</td>
<td>Bois Paul</td>
</tr>
<tr>
<td>Antonacci Emma</td>
<td>Bazzi Lello</td>
<td>Bondaz Jean</td>
</tr>
<tr>
<td>Antonelli Paola</td>
<td>Beciu Catherine</td>
<td>Bonomo Stefano</td>
</tr>
<tr>
<td>Antonioli Michele</td>
<td>Belardi Mauro</td>
<td>Bonvicini Piero</td>
</tr>
<tr>
<td>Appertet Christophe</td>
<td>Belfiore Fabiano</td>
<td>Borroni Ivan</td>
</tr>
<tr>
<td>Arlaud Clara</td>
<td>Belotti Ilario</td>
<td>Bortolameolli Andrè</td>
</tr>
<tr>
<td>Arlettaz Raphaël</td>
<td>Benazzo Massimo</td>
<td>Botani Carlo</td>
</tr>
<tr>
<td>Armanasco Italo</td>
<td>Bensa Marion</td>
<td>Bottex Pierre</td>
</tr>
<tr>
<td>Arnaud Julien</td>
<td>Bernier Charlyne</td>
<td>Bottolier et collège</td>
</tr>
<tr>
<td>Arsc Thierry</td>
<td>Bertella Martino</td>
<td>Sandrine</td>
</tr>
<tr>
<td>Artese Carlo</td>
<td>Bertelli Marco</td>
<td>Bouchard Michel</td>
</tr>
<tr>
<td>Audibussio Eugenio</td>
<td>Bertin. R.Bertin R.</td>
<td>Boulanger Isabelle</td>
</tr>
<tr>
<td>Avogadro Francesca</td>
<td>Bertoli Roberto</td>
<td>Bourlot Marcello</td>
</tr>
<tr>
<td>Azzalin Dario</td>
<td>Bertolini Matteo</td>
<td>Bouvet Pierre</td>
</tr>
<tr>
<td>Azzolini Maurizio</td>
<td>Béthaz (ranger) Milena</td>
<td>Bouvier Martial</td>
</tr>
<tr>
<td>Bailly-Maitre Michel</td>
<td>Béthaz (ranger) Stéphanie</td>
<td>Bragalanti Natalia</td>
</tr>
<tr>
<td>Balducci Massimo</td>
<td>Bethaz Maurizio</td>
<td>Brandonese Oriana</td>
</tr>
<tr>
<td>Balestrieri Germano</td>
<td>Bethmont Marc</td>
<td>Bresesti Alberto</td>
</tr>
<tr>
<td>Barbeau Anaïs</td>
<td>Beurrier M.</td>
<td>Breton Arthur</td>
</tr>
<tr>
<td>Barbieri Michele</td>
<td>Biancheri Jean-Yves</td>
<td>Breton François</td>
</tr>
<tr>
<td>Bardey Gérard</td>
<td>Bianchi Elena</td>
<td></td>
</tr>
</tbody>
</table>
Maugendre Catherine
Maurino Luca
Maurissen Annie
Mazagg Richard
Mazet Theo
Médail Jean-Louis
Medda Maurizio
Meizenc Corine
Merlot Cindy
Metayer Michel
Micheletti Mirko
Michelld Bernard
Michelld Dominique
Migliorati Lara
Minesi Simone
Miravalle Raffaella
Mochen Claudio
Moissard Romain
Molinari Ambrogio
Molinaro Paolo
Molino Simona
Montagnier Isabelle
Montigny Olivier
Moral Laurent
Moranduzzo Severino
Moreschini Guido
Moris (GPNP ranger) Valerìa
Morisset Nicolas
Moro Christian
Mosso Andrea
Mosso Jean-François
Mouchene Dominique
Mozzetti Etторe
Mucciolo Alessandro
Nabholz Carolyn
Nans Denis
Nardelli Riccardo
Naritelli Ivo
Naritelli Lucia
Natale Giovanni
Natalizia Luciano
Néouze Raphaël
Neuhaus Michel
Nicoli Andrea
Nicolino (ranger) Martino
Nicolussi (ranger) Stefano
Nolibois Françoise
Noussan Ilenia
Novelli Andrea
Obert Annick
Odelli Tiziana
Oehl Astrid
Ormea Patrick
Osele Eugenio
Palfrader Walter
Panuello Francesco
Paolletti Flavia
Papet Rodolphe
Parchoux F.
Pardi Jean-Luc
Parisi Agostino
Parolini Ugo
Pasqua Angelo
Passarotto Arianna
Pedrelli Mario
Pedri Luigi
Pegolotti Gianni
Pellet Clarise
Peracino (ranger) Alberto
Peretti (ranger) Federico
Perfus Monique
Perin Vincenzo
Perini Manuelita
Perret Patrick
Perron Sergio
Perucco Francesco
Pettavino Massimo
Philipp Ag.f.sc.Bertagnolli
Piazz Luciano
Pichard André
Pierini Philippe
Pierre Bernard
Pinel Jean-Luc
Pinna Jean-Louis
Piotti Gabriele
Pirotta Giuliana
Pisoni Ana
Pizzato Marco
Ployer J.Y.
Pochon Pierre-André
Pogna Domenico
Poncet Bastien
Portier JB
Pozzi Maurizio
Pradini Daniela
Privat Gilles
Queyrion Jean
Ragaglia Vincenzo
Ramires (ranger) Luciano
Ranaglia Marco
Ranieri R.
Rastelli Francesca
Regazzoni Giacomo
Régis Jordan
Reutena Daniele
Rezé Antoine
Riboni Bassano
Ribot Cathy et Marine
Ricci Ubaldo
Righettini Giacomo
Rivelli Augusto
Rivers-Moore J.
Riviere Raphael
Rivollet Marion
Rizz Aldo
Rjatalla Issam
Robert Mathieu
Robin Annie
Robin Dominique
Robin Klaus
Roggo Lisa
Roland V.isp.f.Paris
Rollet Mauro
Romain Janin
Romano Palumbo Anna
Ropars Cédric
Rosselli Domenico
Rossi (ranger) Susanna
Rossi Gilbert
Rossotto (ranger) Alberto
Roux Poignant Giuseppe
Roverselli Andrea
Rozan Didier
Rutten Céline
Saccoletto (ranger) Vittorio
Salamin Aurel
Salomez Laurent
Salomoni Silvia
Samy Michel
Sartori Michele
Sass Marie-Claude
Sauthier Marlène
Savo Enzo
Scarpari Fabio
Schaad Michael
Scheidegger Daniel
Schmid Jacqueline
Schmid Maximilian
Schmitz Elisabeth
Schott Claudie
Schwab Thierry
Schwienbacher Christoph
Scoffier Frédéric
Secondi Dominique
Seignemartin A.
Serge Michel
Siddi Leonardo
Signorell Silvana
Silvestri Battista
Simonini Gabriele
Sozzi Marco
Speziari Mauro
Stocco Fabien
Stocco Patrick
Storck Frantz
Stringari Adriano
Stuardi Giuseppe
Sutti Paolo
Tabardel Françoise
Taddei Mario
Tambone Cecilia
Tasin Marco
Tassier David
Terrettaz Freddy
Théophile Laurent
Thon Albert
Thon Josiane
Tibaron Martine
Tissot N.
Togni Silvano
Tonnelier Marie-Laure
Tordella Paolo
Torre Pellice C.F.S
Tournier Camille
Trotti Paolo
Ulliel Marie-Laure
Ulliel Raymond
Usseglio Bruno
Valentina
Valentini Walter
Valiati Paolo
Vanscheidt Ralf
Varay Brigitte
Varay Jean-Claude
Varreau Hervé
Vaudan Rosito
Vecchi Michele
Vedel Paul
Vegetti Andrea
Vericel Rémy
Vernaz Cécile
Veronesi Francesco
Vezzoli Daniele
Viglia Francesco
Vignetta Andrea
Vigo Ambra
Vigo Enzio
Villa Lucia
Vincent Alain
Vincent Caty
Vincent Thierry
Von Harsteln Edith
Voulatz Alessandro
Voutaz Jean
Vuillermost Eraldo
Wauters Luc
Wegger Chloé
Wehrli Thomas
Weiss Andreas
Weser David
Wettstein Martin
Wetzstein Claire
Willy (Parkwächter) Armon
Wolf Brigitte
Zanardini Fulvio
Zanetti Giulia
Zanoli Andrea
Zimmermann Laurent
Zubiani Davide
Zwinggi Barbara