INTERNATIONAL BEARDED VULTURE MONITORING

9th International Bearded Vulture Observation Days

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

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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

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VULTURE CONSERVATION FOUNDATION

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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 the Alps.

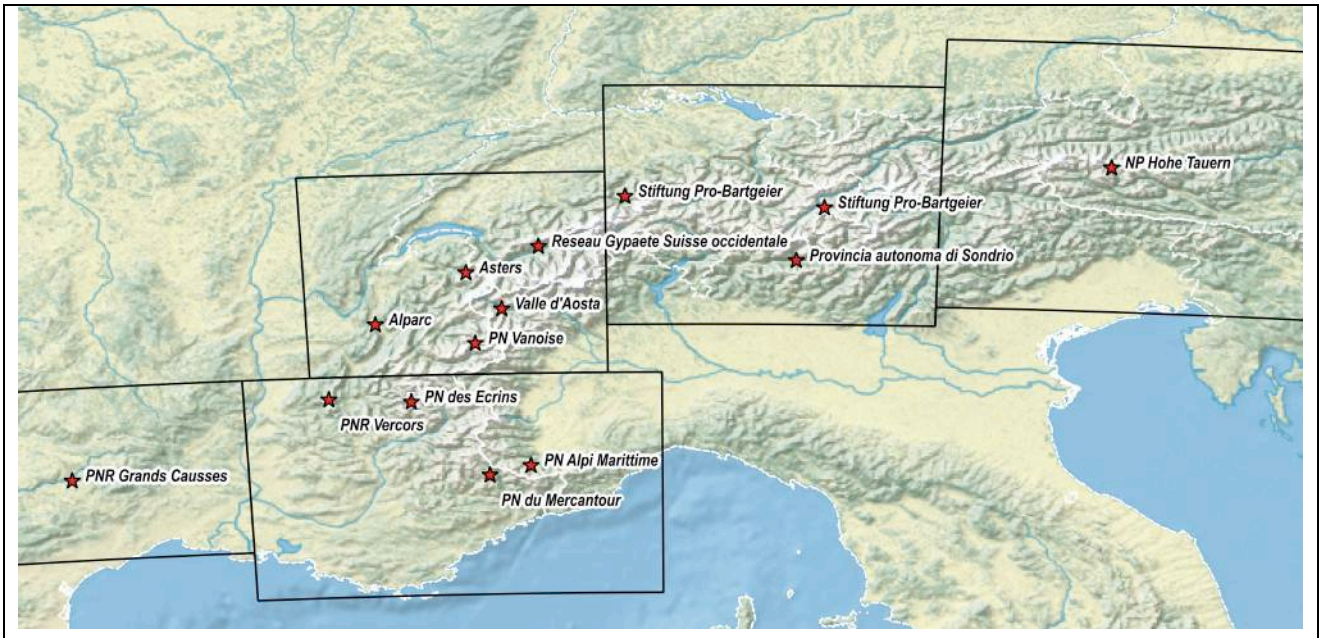

Fig. 1: IBM Partners taking part to the International Observation Days

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:
- date
- team/partner
- post name, address and coordinates
- post occupancy (observation time)
- weather conditions
- total number of observed bearded vultures
- presence/observation of other species
- observers names

Bird observation:
- date
- time and duration of the observation
- coordinates of the observation
- distance to the observer, flight height and direction
- age of the bird*
- bird name / hypothesis
- picture

** 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.

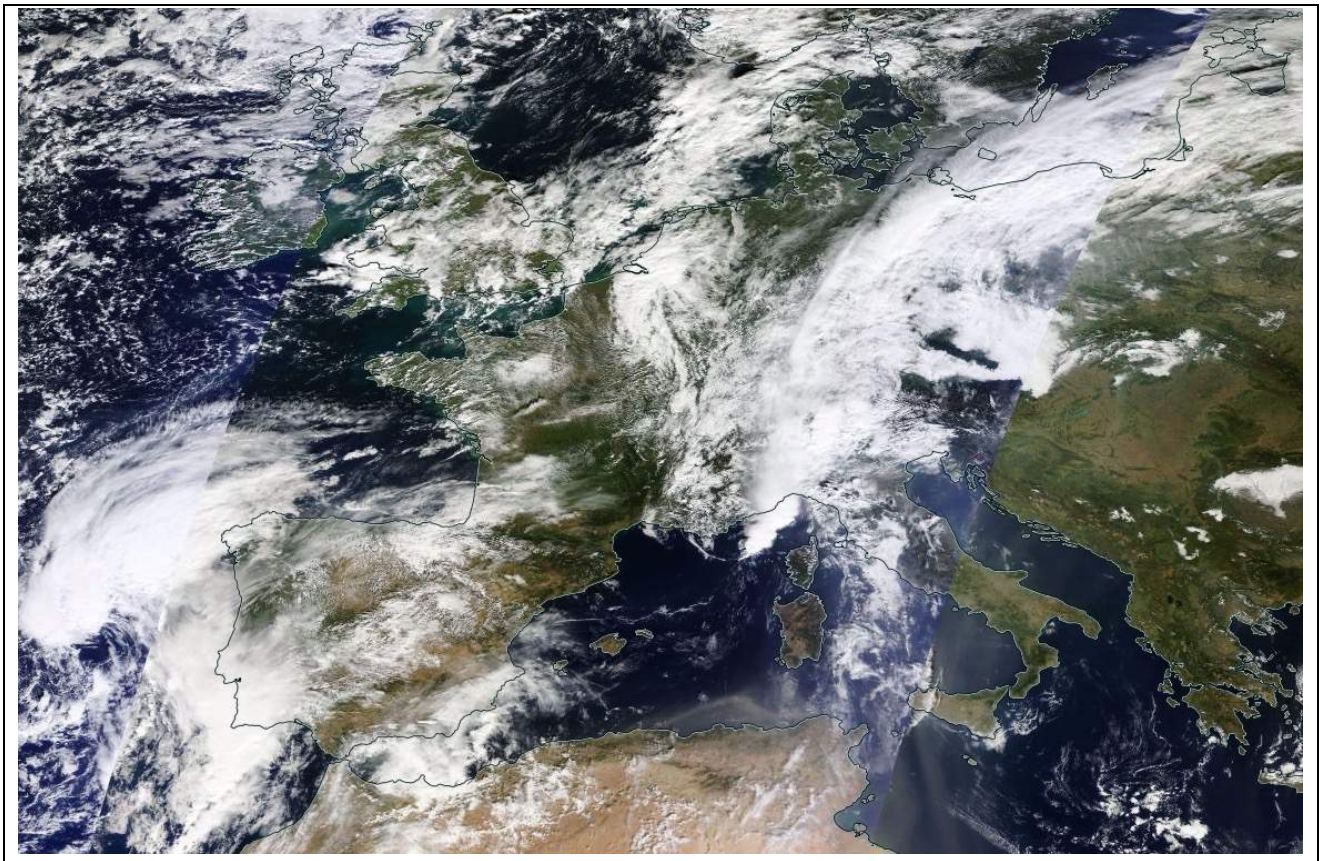

Fig. 2: General overview of continental meteorological conditions on the focal day, 11. October 2014 at midday (taken from Worldview hearthdata.nasa.gov).

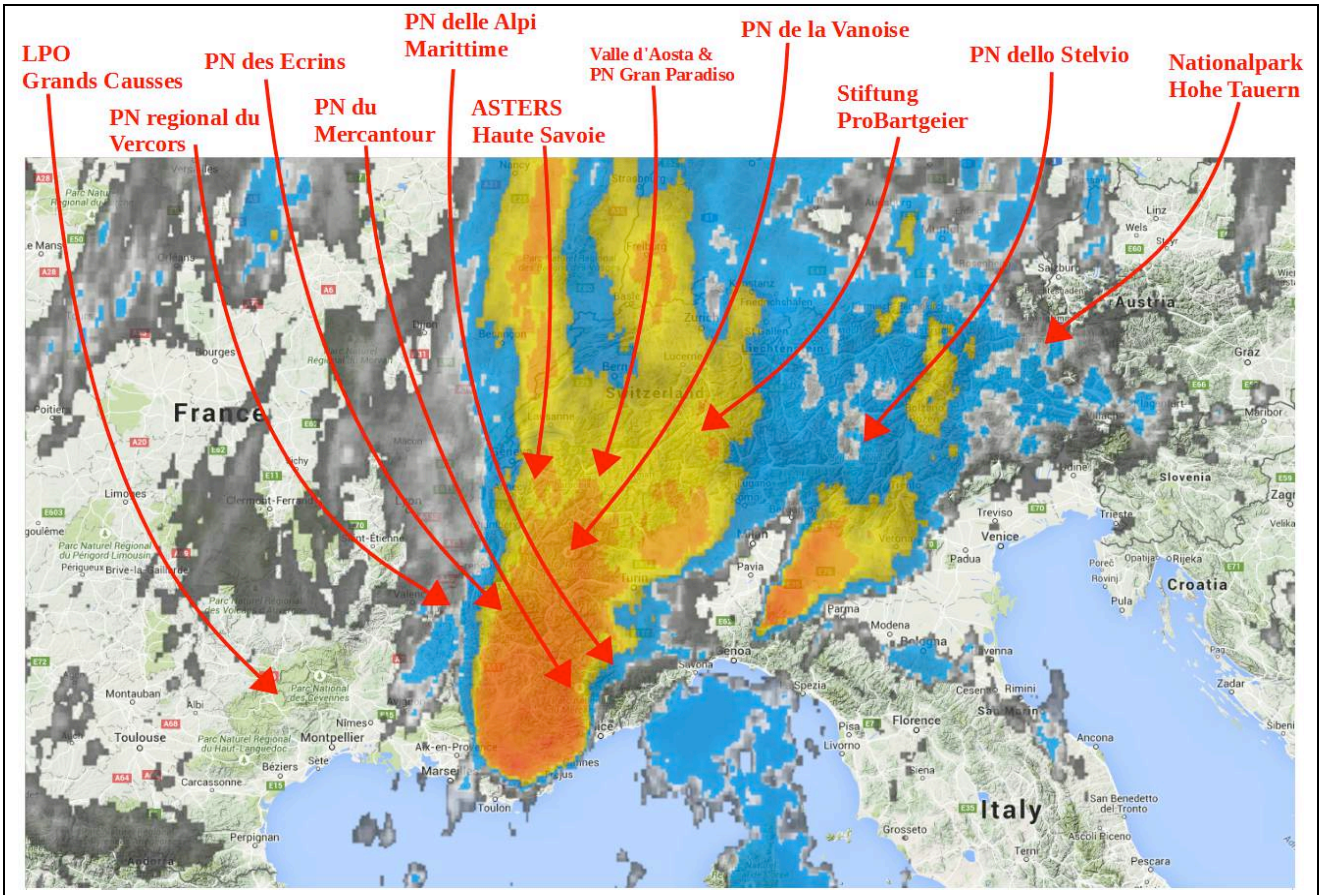

Fig. 3: Close-up look on the meteorological conditions in the Alps on the focal day, 11th October. Almost all partners were affected by poor weather conditions.

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.

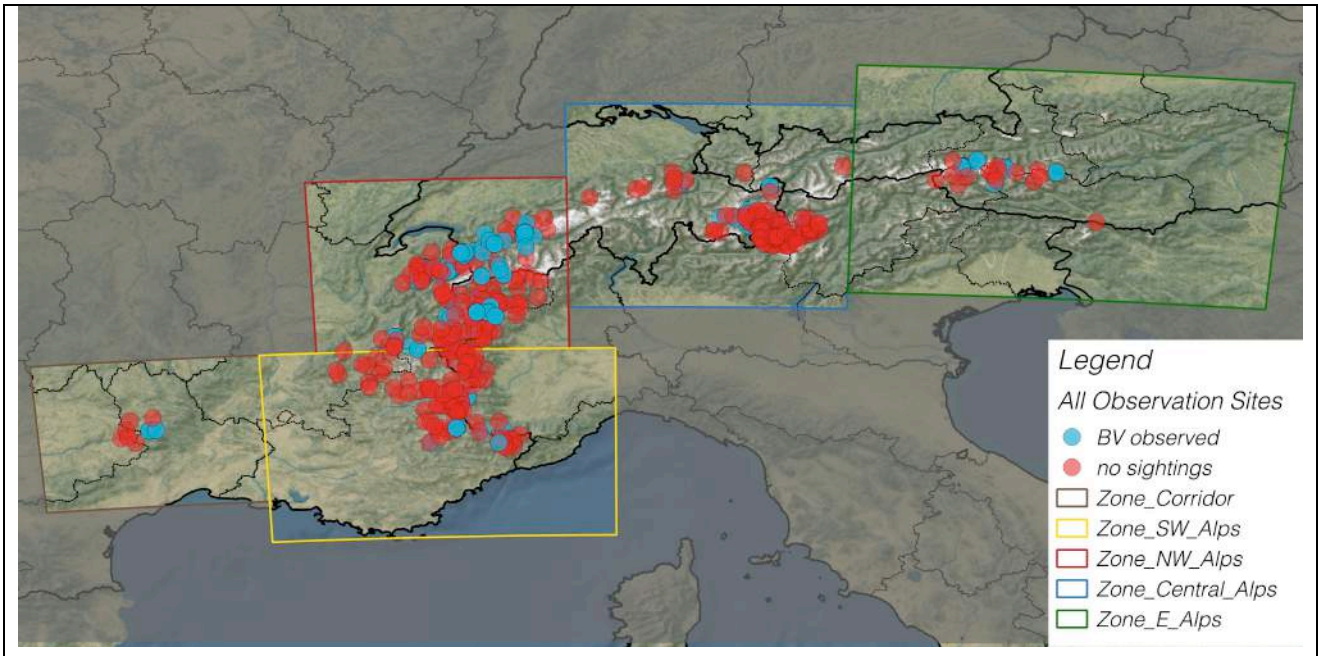

Fig. 4: Map of the Alps and location of all observation sites during the IOD 2014. The squares represent different Alpine regions as described in the legend. Blue circles depict those sites where a BV has been observed at least once during the IOD period 11.-19. October.

	A	IT	CH	CH	CH	FR	IT	FR	FR	FR	IT	FR	TOTALS	
	Austria	*Stelvio NP*	*Engadin*	*Zentral-schweiz*	*Wallis*	*Haute Savoie*	*Valle d'Aosta*	*Savoie*	*Mercantour*	*Dauphiné*	*Alpi Marittime*	*Grands Causses*	**2014**	**2013**
Sites	28	91	15	10	31	33	53	32	40	31	42	9	**415**	**437**
Obs	28	175	16	14	39	67	59	49	61	62	53	11	**634**	**596**

*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).*

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).

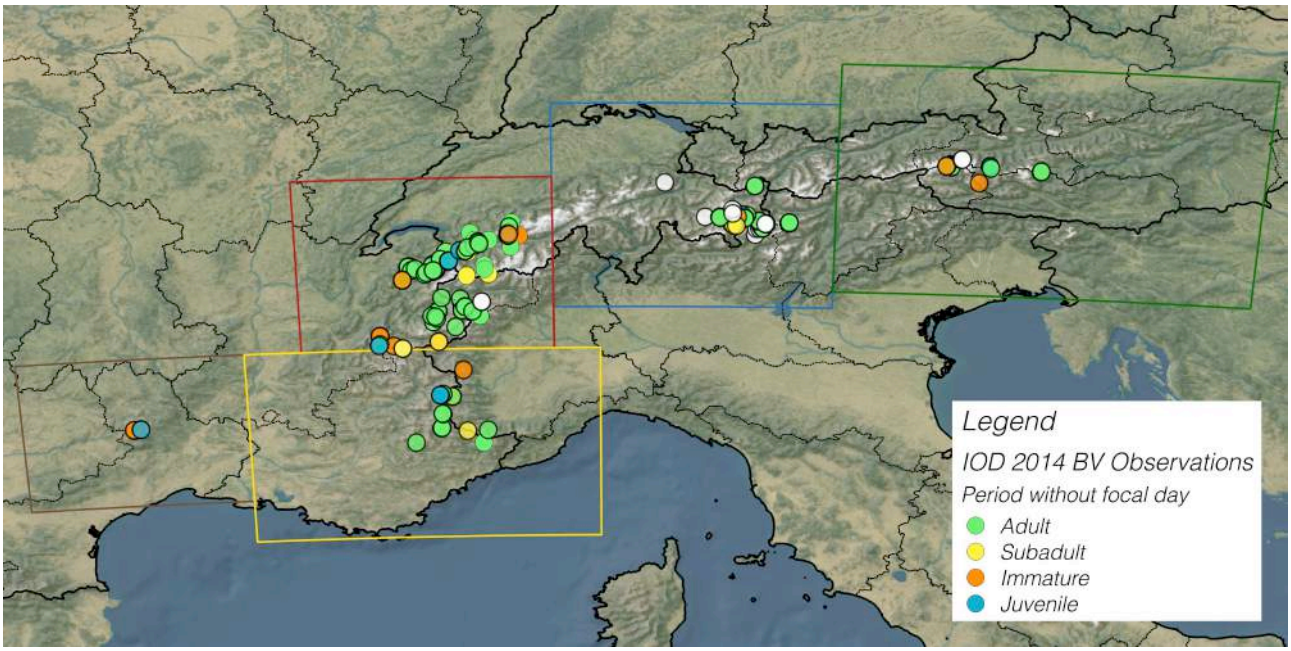

Fig. 5: Maps of all BV observations made during the full IOD period divided by birds' age class. White circles indicate birds of unidentified age class.

	A	IT	CH	CH	CH	FR	IT	FR	FR	FR	IT	FR	
Day	*NP Hohe Tauern*	*Stelvio NP*	*Engadin*	*Zentral-schweiz*	*Wallis*	*Haute Savoie*	*Valle d'Aosta*	*Savoie*	*Mercantour*	*Dauphiné*	*Alpi Marittime*	*Grands Causses*	**TOTAL**
11 Oct	**18**	**44**	**7**	**1**	**17**	**49**	**8**	**19**	**10**	**2**	**5**	**4**	**184**
12 Oct					6		1		2				9
14 Oct					3		1						4
15 Oct					4		2						6
16 Oct					2		1						3
17 Oct					1		2		1				4
18 Oct					12		3						15
19 Oct							1						1
TOTAL	**18**	**44**	**7**	**1**	**45**	**49**	**19**	**19**	**13**	**2**	**5**	**4**	**226**

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 observationperiod.

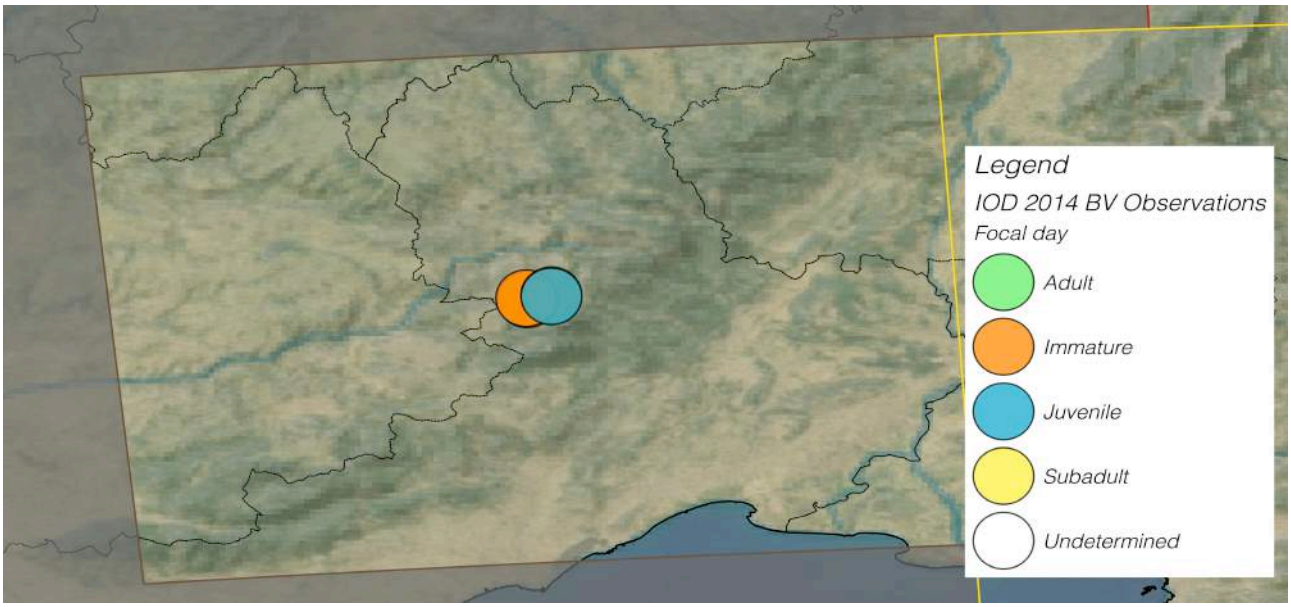

Fig. 6: South Massif Central (Corridor Region), distribution by age class. Overlapping observations of 3 immature and 1 juvenile known birds were made.

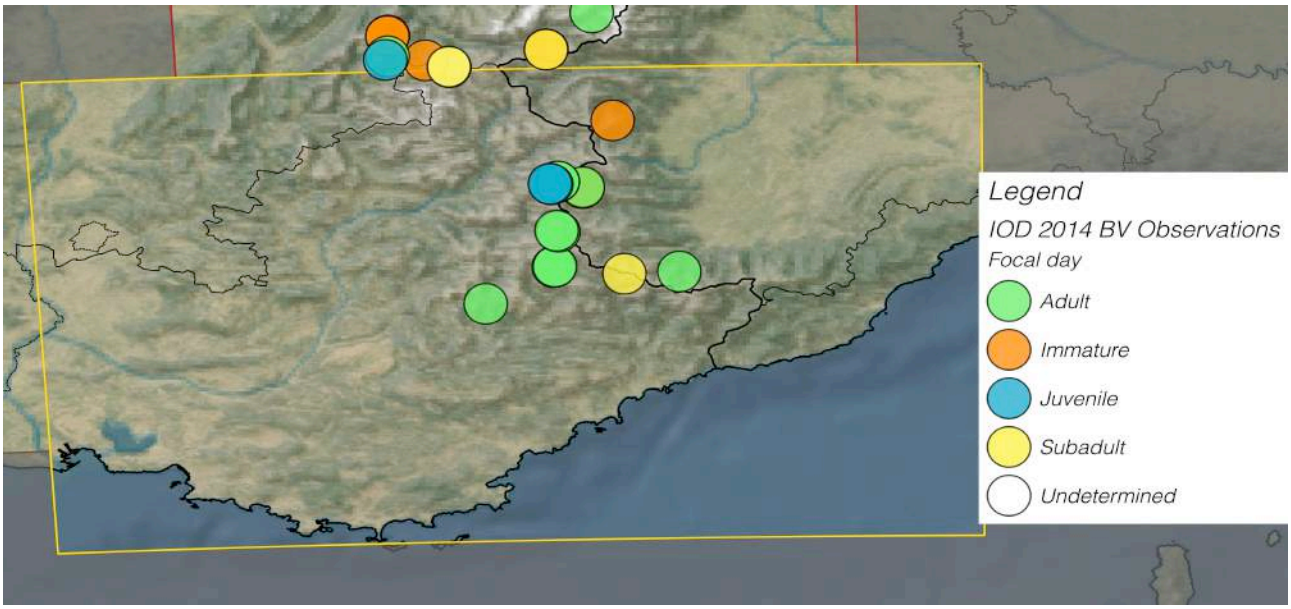

Fig. 7: South-Western Alps, distribution by age class.

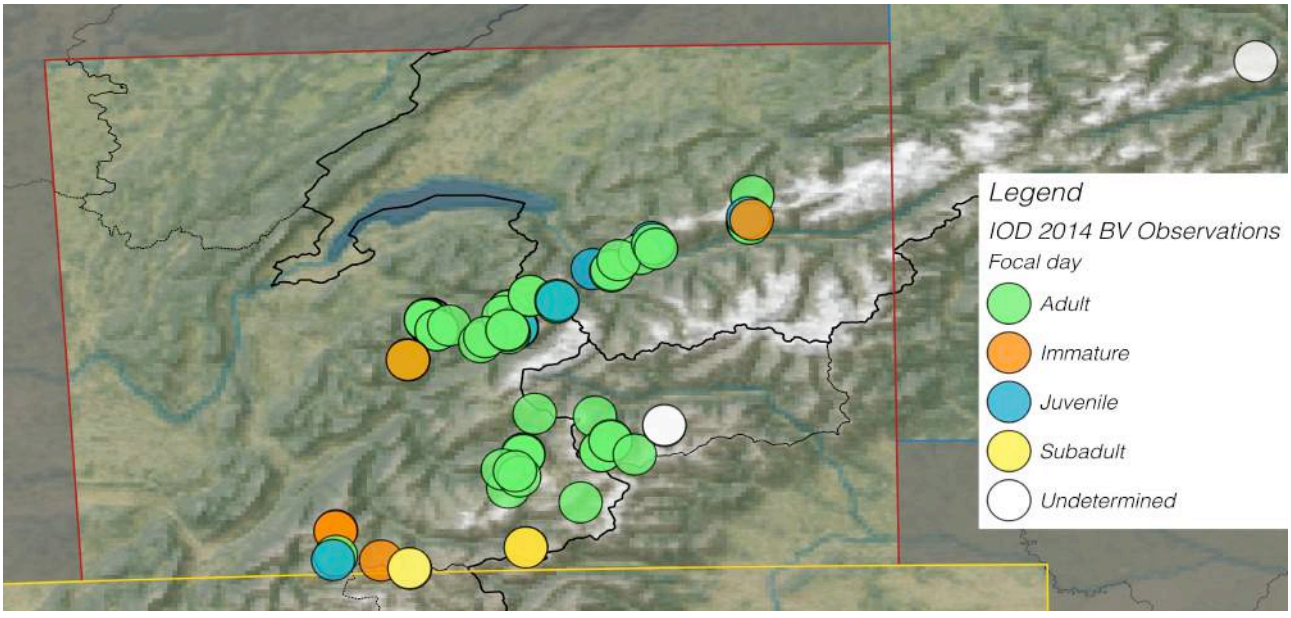

Fig. 8: North-Western Alps, distribution by age class.

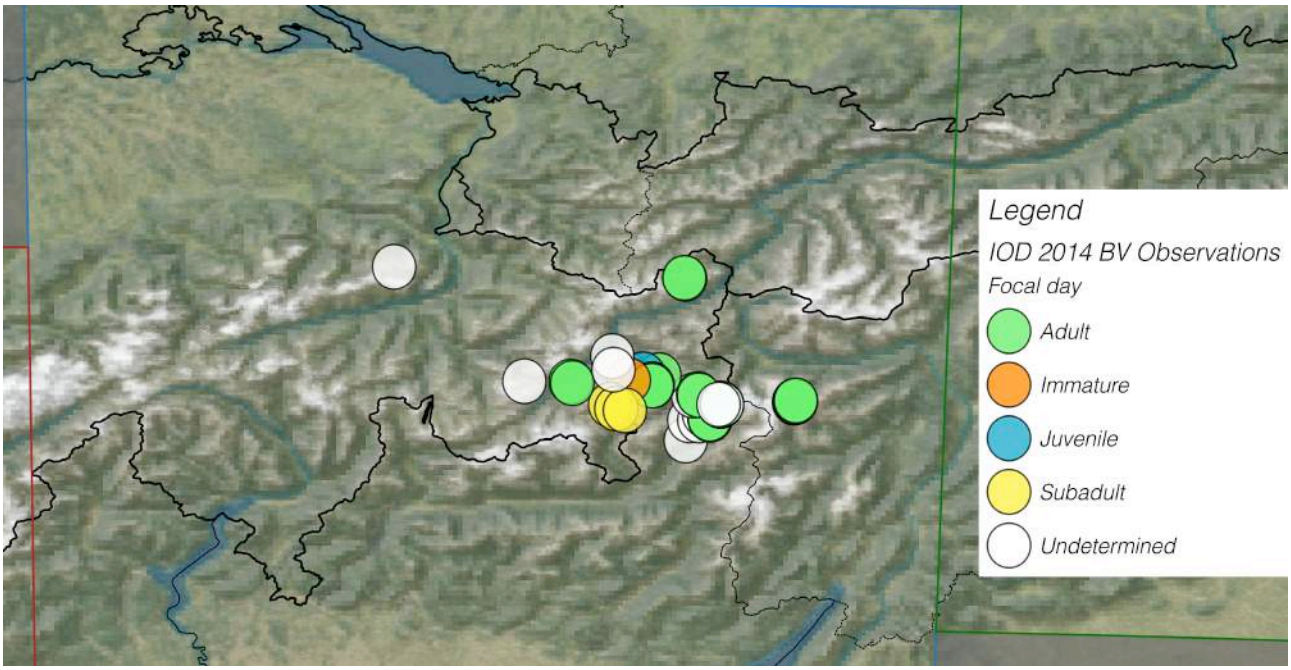

Fig. 9: Central Alps, distribution by age class.

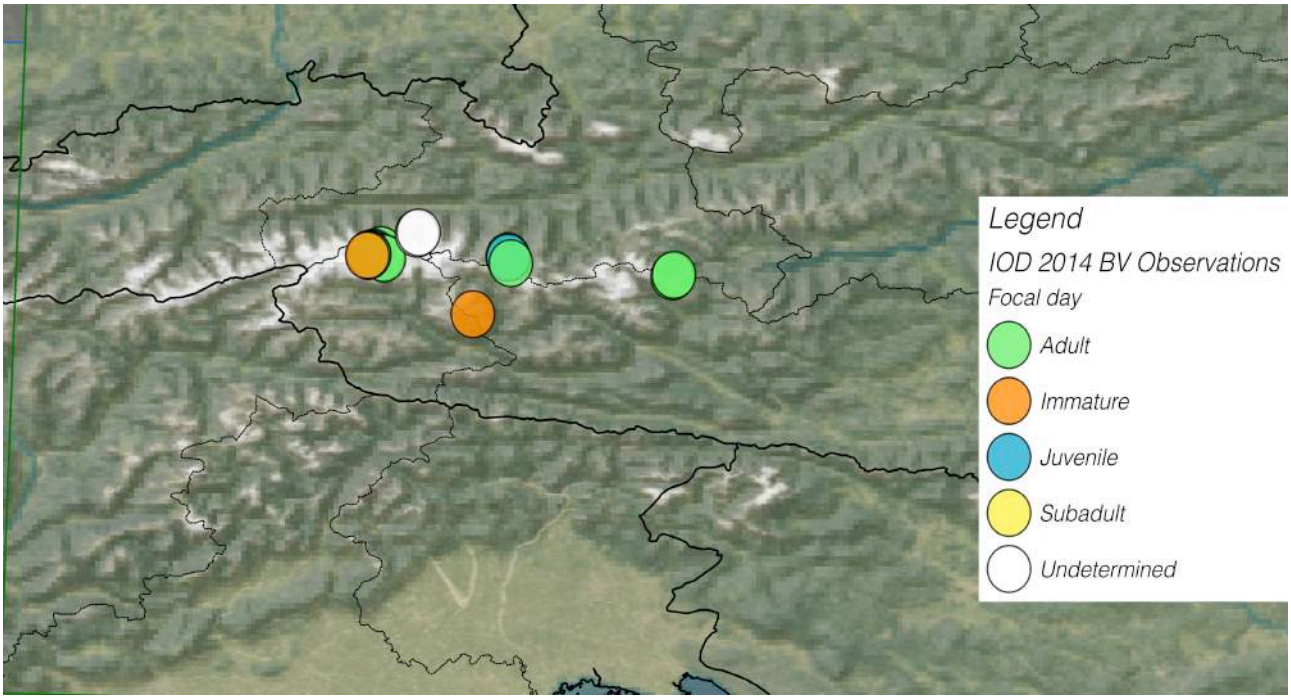

Fig. 10: Eastern Alps, distribution by age class.

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.

Row Labels	11. Oct	12. Oct	14. Oct	15. Oct	16. Oct	17. Oct	18. Oct	19. Oct	TOTAL	
Adult	124	6	4	4	2	4	10	1	155	69%
Subadult	6				1		3		10	4%
Immature	16	3		2			1		22	10%
Juvenile	21						1		22	10%
Undetermined	17								17	8%
TOTAL	**184**	**9**	**4**	**6**	**3**	**4**	**15**	**1**	**226**	

Table 3: Numbers of sightings divided by observation day and age class.

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).

	Juvenile	%	Immature	%	Subadult	%	Adult	%	TOT
2010	25	*16*	35	*22*	22	*14*	75	*47*	**158**
2011	25	*15*	38	*22*	22	*13*	84	*50*	**169**
2012	22	*12*	47	*26*	22	*12*	90	*49*	**182**
2013	27	*14*	53	*27*	19	*10*	98	*50*	**197**
2014	27	*13*	56	*27*	25	*12*	103	*49*	**210**
IOD14	Juveniles	***10%***	Immatures	***10%***	Subadults	***4%***	Adults	***69%***	

Table 4: Number of BVs and percentage per age class estimated by the demographic model. In yellow the estimates for 2014. In green the observations results (%) from the sightings recorded during the IOD.

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).

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

46	Female Pair Katschberg			Adult
47	Layrou		BG761	08.03.2013
48	Adonis		BG794	15.02.2014

Table 5: Summary of the birds identified during the IOD 2014.

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.

	AUT	ITA	CH	CH	CH	FRA	ITA	FRA	FRA	FRA	ITA	FRA	TOTALS	
	Austria	*Stelvio NP*	*Engadin*	*Zentral-schweiz*	*Wallis*	*Haute Savoie*	*Valle d'Aosta*	*Savoie*	*Mercantour*	*Dauphiné*	*Alpi Marittime*	*Grands Causses*	**2014**	**2013**
Min	12	13	5	1	12	11	4	11	10	2	4	2	**87**	**87**
Max	14	13	5	1	16	11	4	13	10	2	4	2	**95**	**98**

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).

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.

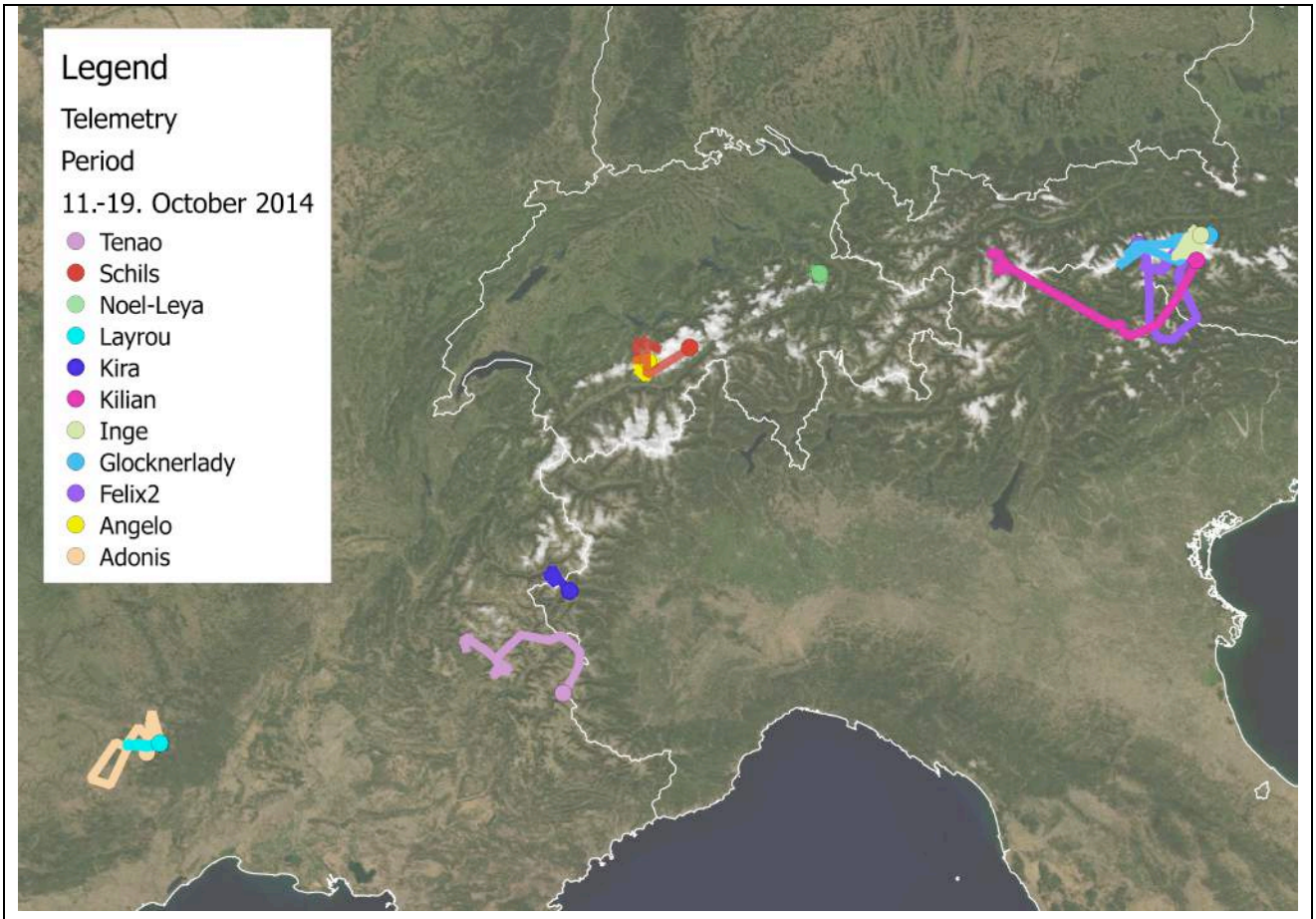

Fig. 11: Map of the positions of BVs with GPS senders during the IOD period. The circles represents the end point on the 19.10.2014, whereas the beginning of the lines show the birds' starting points.

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).

	Minimum	Maximum
Estimation from observations	87	95
Unsighted known individuals	19	29
GPS-tagged & unsighted	6	6
TOTAL 2014	**112**	**130**
TOTAL 2013	***117***	***128***

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 the 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:

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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.

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Artese Carlo
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Azzalin Dario
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Bailly-Maitre Michel
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Biollaz François
Biscontini Paolo
Blanchetti (ranger) Luciano
Blanchin Hervé
Bloc Alain
Blois Wilfried
Boessneck Anna
Boetto Enrico
Bois Giacinta
Bois Paul
Bondaz Jean
Bonomo Stefano
Bonvicini Piero
Borney (GPNP ranger) Stefano
Borroni Ivan
Bortolameolli Andrè
Botani Carlo
Bottex Pierre
Bottolier et collègue Sandrine
Bouchard Michel
Boulanger Isabelle
Bourlot Marcello
Bouvet Pierre
Bouvier Martial
Bragalanti Natalia
Brandolese Oriana
Bresesti Alberto
Breton Arthur
Breton François

Bridet Vincent et Yann
Briotet Daniel
Brosius Hervé
Brun François
Buffa Andrea
Bürkli Elisabeth
Bürkli Wolfram
Bury Pierre
Cabri Giovanna
Calvo Jéremy
Cambensy Jürg
Camp Jennifer
Campra Francesco
Cao Fiore
Capelli Stefania
Carcereri Giorgio
Carlier Julie
Casartelli Albert
Castagna Elena
Catteau Monique
Caty Jean-François
Caty Nadine
Cavallari Selene
Cellerino Alberto
Cerise Sandro
Chabrand Françoise
Chantry Emily
Charron Julien
Cheneval Ludovic
Chesaux Michel
Chesini Luigi
Chevallay Marc
Chiardola Dany
Chiardola Jacqueline
Chiereghin Maurizio
Chiminelli Domenico
Chomel Bénédicte
Christian
Ciaravola Françoise
Ciocca Luca
Ciocca Simone
Cirolo Alfonso
Clack Jonathan
Clausen Hans-Peter
Claveau Hélène
Cloup Fanny
Col De Bretolet Team
Colato Luca
Collomb Alessio
Combeaud Stéphane
Combrison Damien
Comploj Karin
Contratto (ranger) Domenico
Corail Marco
Corgatelli Alessandro
Corno Giuditta
Corradini Gloria
Costanzo Lorenzo
Cottereau Didier
Coulomb Jean-Paul
Coulon Mireille
Couloumy Christian
Cozzo Mario
Cretier Dario
Crisinel Jean-Paul
Cugnod Giuseppe
Cugnod Thomas
Da Canal Luca
Daeye Ollivier
Dall'Anese Denis
Dalla Torre Giuseppe
Dallavalle Marco
Daniel Thonon
Danielli Andrea
Danielli Simona
David
David Thierry
De Carlo Giulio
De Colombar Christine
De Matteis Salvatore
De Siena Dario
De Tann Dario
Decourt Olivier et Françoise
Decourteille Virgil
Deffrenes B.
Del Togno Riccardo
Delanoue Eric
Delmas Frédéric
Delpero Gino
Denis Serge
Deplazes Gion
Deplazes Judith
Deplazes Lucretia
Desesquelle Jonathan
Desportes Christophe
Diemoz Bruno
Digier Marion
Domet de Mont Emmanuel
Ducruet Fabien
Dujardin Alain
Dunajev Sophie
Duraffort Patrice
Durant Christine & Sophie
Durix Sylvie
Emmenegger Tamara
Empereur Osvaldo
Epardeau Odile
Erario Nadine
Eymard Monique
Fabre Frédéric
Fabre Rémi
Facoetti Roberto
Fahrni Maya
Faifer Paolo
Fasoli Aldo
Faulquier Lucie
Favre (ranger) Dario
Favre Tiziana
Federico Pino
Ferbayre Jean-Paul
Feriozzi Daniele
Ferloni Maria
Ferrari Fiona
Ferrier Massimo
Ferry Pierre
Floris Nicola
Foglini Claudio
Forlani Emanuele
Fornari Luca
Fornasari Luca
Fornasari Michele
Fortini Laetitia

Fortini Philippe
Fosanelli Marie-France
Fossey Agnès
Fosson Corrado
Foulon Hélène
Foulon Marlène
Franchini Matteo
Freychet Didier
Fribourg Xavier
Friedrich Ass.f.c.Fliri
Frier-Quris Muiel
Fusero Flavio
Gaillard Laurent
Gargioni Arturo
Garnier Stéphane
Gatti Lorna
Gaudron B.
Gauthier Mylène
Gay R. Gonnet C.
Geffrin Jean-Marie
Gelfi Luciano
Genand Bernard
Genand Edith
Genève Sylvie
Gerbaldo (GPNP ranger) Carlo
Gerbelle Dario
Germain René
Giacomo et collègue Clément
Gianera Fausto
Giannotta Doriano
Giordano Michelangelo
Giordano Remo
Giosele Cristina
Girardi Claudio
Girardi Olivo
Giraudo Luca
Girollet Greg
Giuliano Davide
Godly (Parkwächter) Domenic
Good Albert
Gorini Michele
Gorini Sandro
Gorret Mirko
Gotti Christophe
Gozzi Cristina
Gozzi Paolo
Graf Roland
Grappein (ranger) Franco
Grazia Carpi Maria
Grazia Folatti Maria
Grillet Jean-Philippe
Grosa (ranger) Marco
Gualandris Gianbattista
Guglielmetti (ranger) Paolo
Guido De Monte Ag.f.sc.
Guillaume Christophe
Guillemot Alexandre
Hegglin Daniel
Heidempergher Luciano
Henzelin Heidi
Henzelin Rémy
Herrmann Mylène
heuret Julien
Horon Frank
Houzelle Patricia
Hustache Eric
Hutter Pierre-Alain
Ibañez Damien
Icardo Emmanuel
Isoard Olivier
Jacob Laure
Jacquemoud Alexandre
Jacquemoud Yves
Jaime
Janavel R.
Jardin Jean-Luc
Jendoubi Samy
Jenny David
Jordan Norbert
Jourdan Mathilde
Kalbermatten Elisabeth
Klein Ludovic
Koller Josef
Konareff M.
Küffer Marianne
Labbé Pascal
Lailler Philippe
Lamborot Fabien
Lantaz Eleonore
Laurençot Cécile
Laurent
Lavezzi Franco
Lebfevre Alain
Lecuyer Laurence
Lefrançois Olivier
Legouge Vianney
Lenogue Serge
Leo Rocco
Levrino Angioletta
Lieta Antonio
Lingua Antonio
Lombard Jo
Long Gilles
Lörcher Franziska
Lörcher Marianne
Lucas Stépahne
Luigi Pedergnana Pier
Luisier Célestin
Lutzu Piero
Magnolon Séverine
Mahault Aurélien
Maio Roberto
Maistri Roberto
Manini Stefano
Marchesi Manuela
Margueret Valter
Marianini Giuseppe
Marlé Etienne
Marre Paolo
Marslen Jean-Marie & Michèle
Martel Gregory
Martin Béatrice
Martin Thomas
Martin Vairetto Alex
Martin-Dhermont Laurent
Martinelli Emilio
Marty Carine
Massara Paolo
Massoni Demis
Mathray Fabienne

Maugendre Catherine
Maurino Luca
Maurissen Annie
Mazagg Richard
Mazet Theo
Médail Jean-Louis
Medda Maurizio
Meizenc Corine
Merlot Cindy
Metayer Michel
Micheletti Mirko
Michellod Bernard
Michellod Dominique
Migliorati Lara
Minessi 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) Valeria
Morisset Nicolas
Moro Christian
Mosso Andrea
Mossot Jean-François
Mouchené Dominique
Mozzetti Ettore
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
Paoletti 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
Piazzi 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
Praolini Daniela
Privat Gilles
Queyron Jean
Ragaglia Vincenzo
Ramires (ranger) Luciano
Ranaglia Marco
Ranieri R.
Rastelli Francesca
Regazzoni Giacomo
Régis Jordana
Reteuna Daniele
Rezer Antoine
Riboni Bassano
Ribot Cathy et Marine
Ricci Ubaldo
Righettini Giacomo
Rivelli Augusto
Rivers-Moore J.
Riviere Raphael
Rivollet Marion
Rizzo 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
Voulaz Alessandro
Voutaz Jean
Vuillermoz 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