

IOD 2016



INTERNATIONAL
BEARDED VULTURE
MONITORING

11th International Bearded Vulture Observation Days

FOCAL DAY

OCTOBER 8th 2016

PERIOD

OCTOBER 8th-16th 2016



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 ENVERGURES ALPINES²
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Vautours en Baronnies



INTERNATIONAL BEARDED VULTURE MONITORING



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ABSTRACT

Between the 8th and 16th of October 2016, the International Observation Days (IOD) for bearded vultures took place for the 11th time. This bird watcher event is organised on a yearly basis by the International Bearded Vulture Monitoring network (IBM) over the whole Alpine arc and since 2012 in parts of the Massif Central. This year the monitoring network was expanded to the eastern parts of the Pyrenees in order to detect possible migrations between the Alpine and Pyrenean bearded vulture populations.

The simultaneous survey over the whole Alpine arc should give an estimate about the number of observed individuals and their age class distribution. Furthermore, every year multiple sightings of identifiable birds are collected during the IOD. This information generates the baseline data for survival analysis and demographic modelling which give valuable insight about the reintroduction progress. Finally, the IODs play an important role in creating public awareness for the project and the conservation of the species.

In 2016 more than 770 observers participated at the yearly survey and reported almost 500 bearded vulture observations. Apart from the eastern parts of the Alps and northern Italy, almost 80% of the 528 observation sites reported favourable weather conditions and bearded vultures have been observed at 182 sites. Local knowledge and an overview of the actual situation of the bearded vulture population enable local coordinators to critically evaluate the IOD-observation data and give an estimate about the population size in their region. These estimates and the observations were compiled, evaluated and summarised over the entire monitoring area in order to get an overview about the age class distribution and to compare the estimates with the predicted population size from demographic modelling (Schaub et al. 2009).¹

According to the assessment of the regional coordinators 149 to 178 different bearded vulture individuals have been observed during the focal day (2016/10/08). However, including individuals that have not been observed but are expected to be present in the region (territorial birds, in some exceptional cases also their fledglings, GPS-tagged birds etc.) the estimates range between 172 and 218 birds with considerable regional differences. Most of the observed bearded vultures were adults (52%), followed by immatures (19%), juveniles (17%), subadults (8%) and there were <5% of the birds where age determination was not possible. Furthermore, it was possible to identify 88 birds on an individual level, thus providing us valuable information on the life history of these birds.

Comparing our estimates with the predictions from the demographic model developed in 2009 gives evidence that we could observe between 61% and 72% of the theoretical population. However, similar to 2015 only slightly more than 50% of the GPS-tagged animals have been observed and identified. Therefore, this data has to be reassessed periodically with the help of updated demographic models.

¹ Schaub, M., Zink, R., Beissmann, H., Sarrazin, F., & Arlettaz, R. (2009). When to end releases in reintroduction programmes: demographic rates and population viability analysis of bearded vultures in the Alps. *Journal of Applied Ecology*, 46(1), 92-100.

BACKGROUND

During the International Observation Days (IOD) volunteers and experts watch out for bearded vultures (BV) throughout the Alps and surrounding areas in a simultaneous and coordinated survey. This, in conjunction with other monitoring data, allows to get a picture about the number of bearded vultures living in the Alps and the Massif Central. In particular, the joint efforts across the Alps allow to re-identify a high number of bearded vulture individuals thus providing basic data for estimating survival rates. These are essential data for building and improving demographic models that enables us to assess the success of the reintroduction project. Furthermore, the observation days represent a big public event that helps to increase the awareness for this endangered species.

METHODS

Organisation

The monitoring is planned and executed simultaneously over all the alpine territories and in the Massif Central (see Fig. 1) by local partners. This ultimately allows us to gain information about bearded vulture presence thus avoiding/reducing the chance of double counts and allowing us to get the big general picture about bearded vulture distribution.

Area

A network of partners allows to cover a large proportion of the area in the Alpine arc and the Massif central (Fig. 1). During the IOD 2016 the monitoring was expanded towards the Pyrenees (department "Aude" in France) in order to reveal exchanges between the separated populations.

Time Period

The 2016's international survey was held between the 8th and the 16th October with the focal day on Saturday 8th. 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 IBM partners and take into account partner's availability, other ornithological appointments and the birds' reproductive behaviour. The fact, that bearded vultures are active in nest building, makes this a suitable period to observe the birds and record possible new territories and breeding pairs.

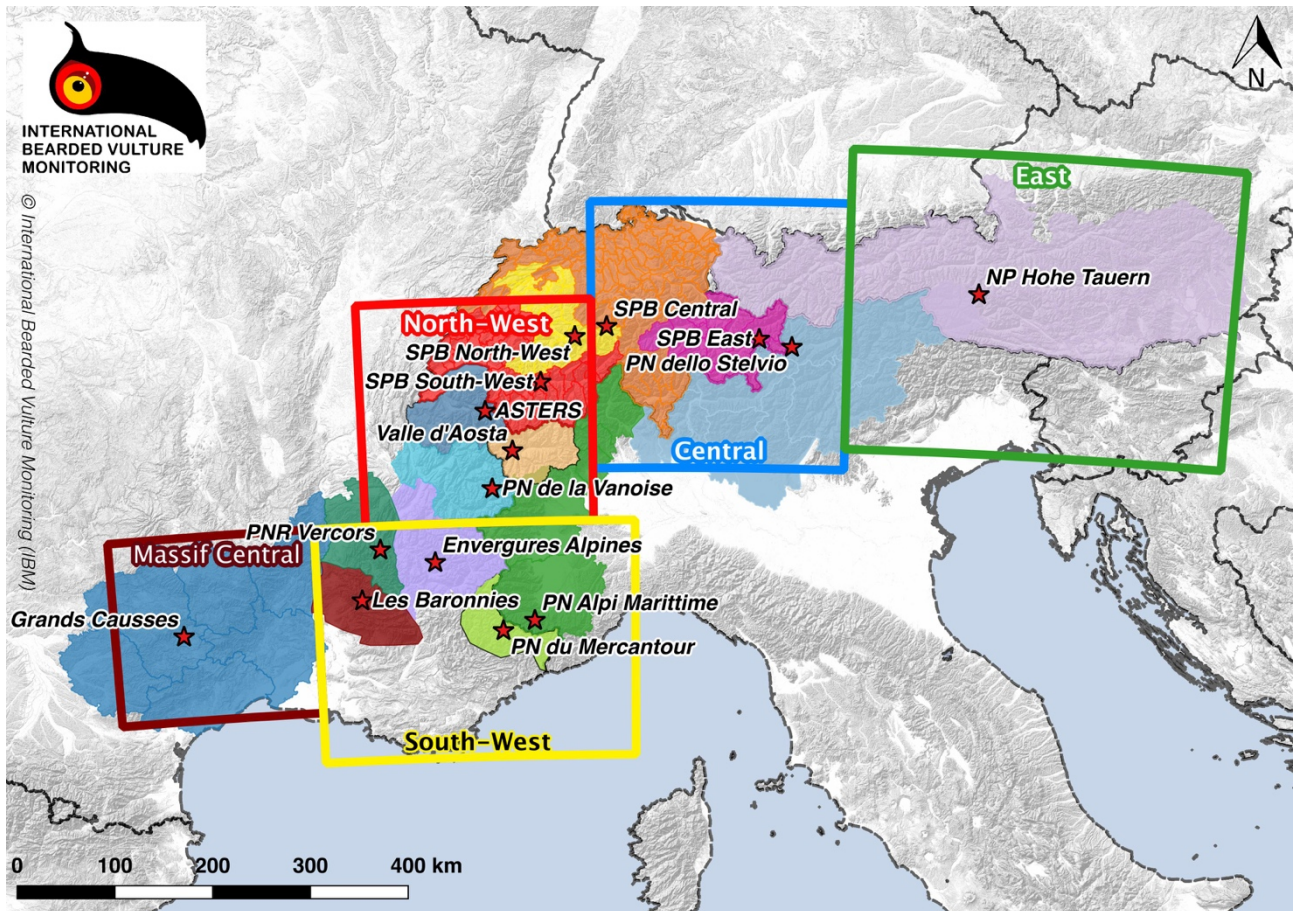


Fig. 1: IBM Partners taking part in the International Observation Days 2016. The rectangles represent the four Alpine regions (East, Central, North-West, South-West) and the Massif Central. The coloured areas define the areas of responsibility for each associated partner.

Data collection and observation protocol

The survey took place between 10:00 am and at least 15:00 pm. For each observation site and bearded vulture sighting the following information was recorded:

Observation site:

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

Bird observation:

- date
- time and duration of the observation
- age of the bird*
- bird name / hypothesis
- picture if possible

* 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 composed by one or more observers, at least one of them being experienced, equipped with binoculars and, depending on availability, telescope and camera.

Data Analysis

All data is collected at the end of the day by the local administrator who will also review the reported observations. The local administrators work in close cooperation with field assistants/observers and other nearby local administrators responsible for the surrounding monitoring areas. Based on for example individual markings, temporal overlap of the sightings, knowledge about known territorial birds and their juveniles that still remain in the area, they are able to critically assess the number of observations and judge to how many individual bearded vultures the IOD observations refer to. Since it is not always possible to assess whether several observations have been made of the same individual, the final estimate includes a minimal and a maximal count number, namely accounting for a stricter versus a less conservative analysis.

After a critical assessment of possible double counting, these results are summarised over the whole monitoring area in order to get an overview of the estimated bearded vulture population in the alpine range and the Massif Central. Finally, the resulting population estimates of the IOD are also compared with the estimate that can be deduced from the demographic model of Schaub et al. (2009).

RESULTS AND DISCUSSION

Weather conditions

In the most of the regions of the Alpine range the observers could profit from favourable weather conditions on the focal day. Unfortunately, the meteorological conditions were not ideal in the eastern parts of the monitoring area as well as on the southern side of the Alps in northern Italy (Fig. 2). Despite the regionally unfavourable weather conditions a simultaneous survey could be conducted in all the regions on the focal day.

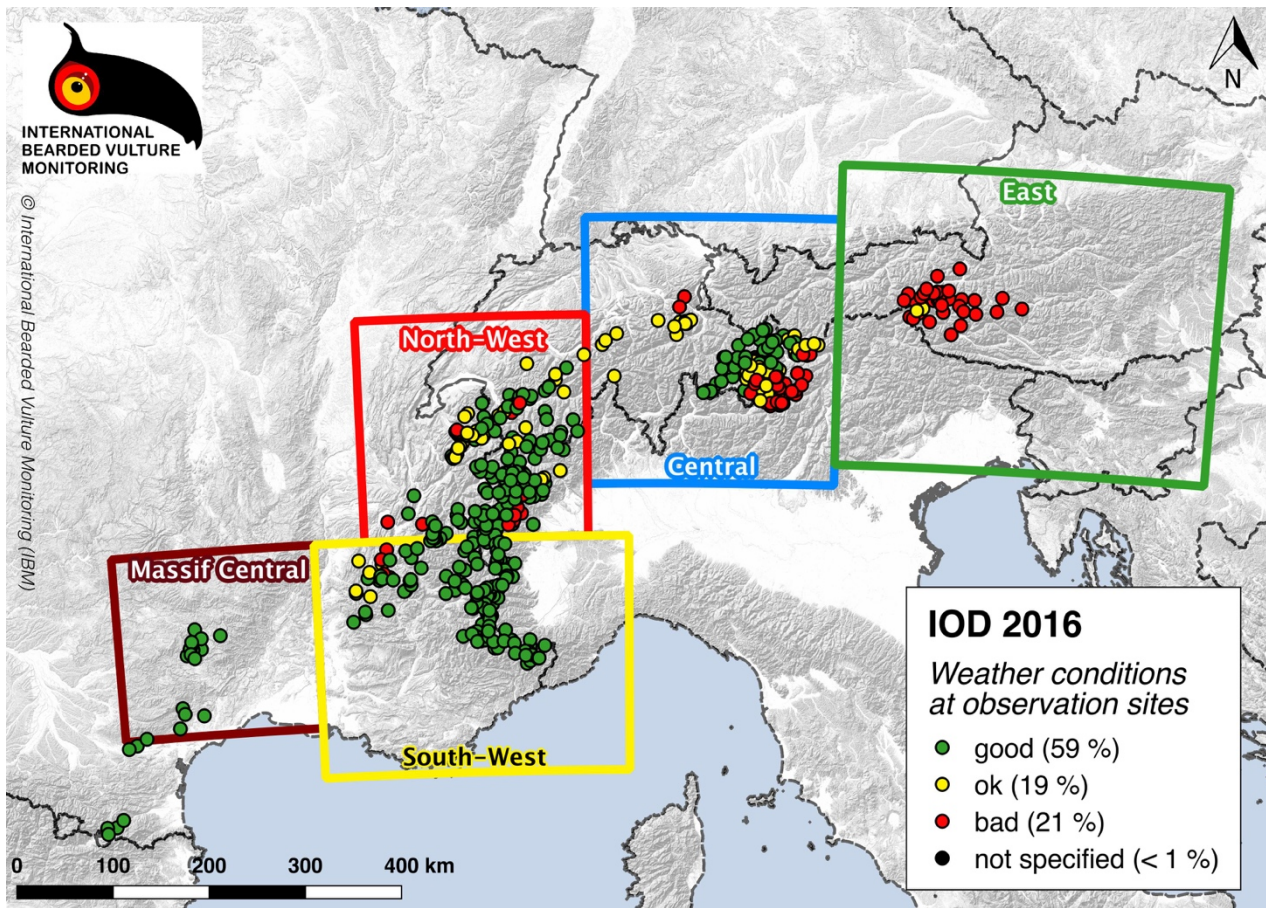


Fig. 2: Weather conditions at the observations sites reported by the observers in the field during the IOD 2016. Almost 80% reported favourable weather conditions while the conditions were unfavourable in the eastern parts of the Alps (Austria) and in northern Italy on the southern side of the main alpine ridge.

Monitoring effort and success

In 2016, a total of **774 observers** have occupied **528 observation sites** spanning throughout the Alps, the Massif Central and also close the Pyrenees in the department “Aude” (Fig. 3 and Table 1). The area covered by the observers during the IOD has increased over the years. However, it has not been possible to cover the complete Alpine range (~188.000 km²) simultaneously (s. Fig. 3). Like in the previous years, the Western regions of the Alps remain the most thoroughly surveyed areas together with the area of the Stelvio National Park in the North of Italy. With additional observation sites close to the Spanish border near the Pyrenees the IBM monitoring network plans to cover regions that might serve as a connection between the bearded vulture populations from the Alps and the Pyrenees.

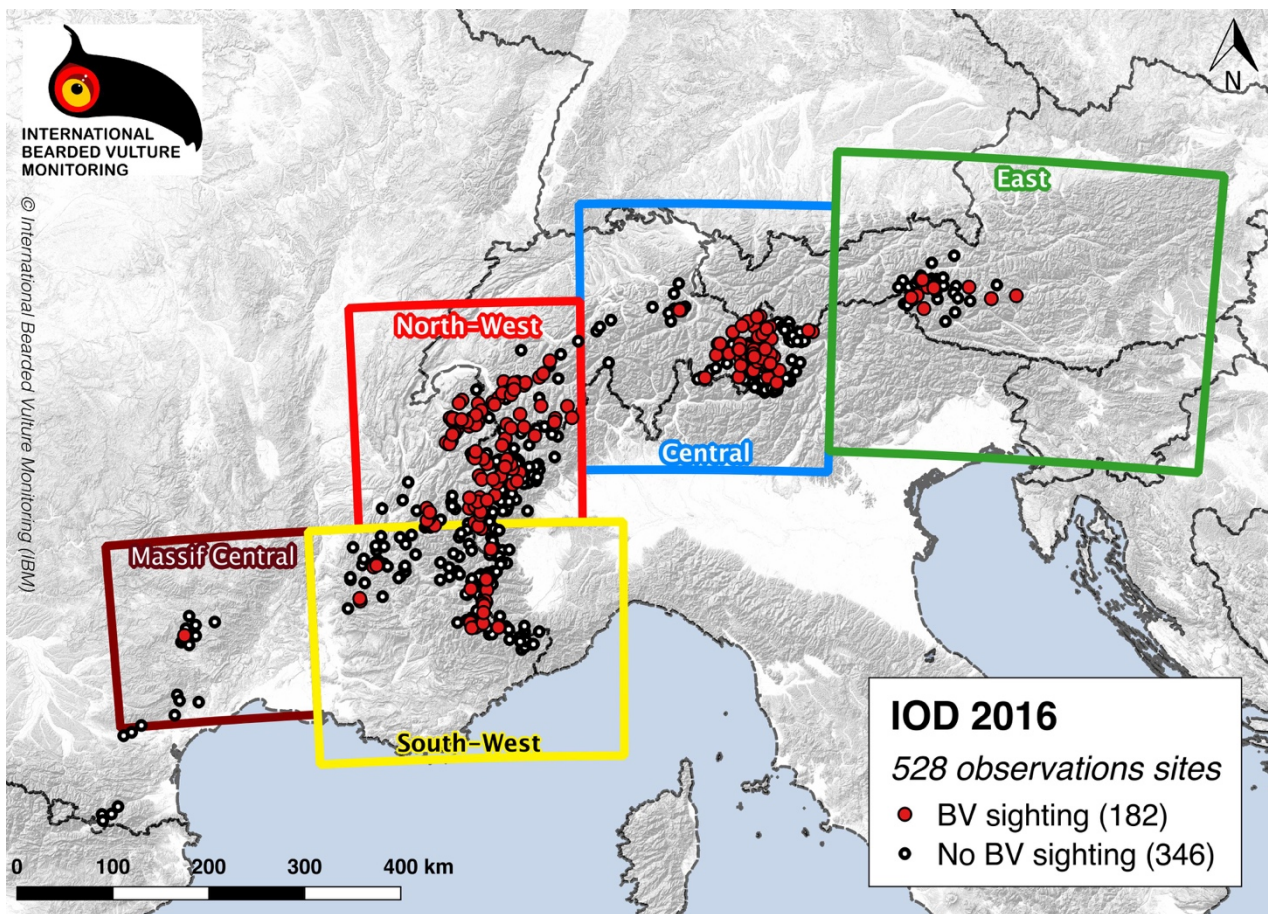


Fig. 3: Map of the Alps, the Massif Central and parts of the Pyrenees and locations of all observation sites during the IOD 2016. Red dots depict those sites where bearded vultures have been observed at least once during the IOD period 8.-16. October 2016 while no observations have been reported from sites marked with black small circles.

Tab. 1: Number of observation sites (sites) and observers for each region during the IOD 2016. In the bottom lines the results of the three previous years that highlight a continuous increase of monitoring effort.

Sector	Country	Region	Sites	Observers
Eastern Alps	Austria	Hohe Tauern NP	37*	35
	Italy	Southern Tyrol	18	24
Central Alps	Italy	Stelvio NP	95	173
	Switzerland	Engadin	40	41
	Switzerland	Central Switzerland	14	20
	Switzerland	Wallis & Berner Oberland	35	42
North-Western Alps	France	Haute Savoie	30	58
	France	Savoie	32	46
	Italy	Valle d'Aosta & Gran Paradiso NP	51	57
	France	Vercors NP	14	17
South-Western Alps	France	Mercantour	43	71
	France	Dauphiné	41	84
	France	Baronnies	7	14
	Italy	Alpi Marittime - WAON	48	62
	France	Grands Causses	23	30
Total 2016			528	774
Results 2015			496	708
Results 2014			415	634
Results 2013			437	596

* several observers occupied more than one site on different days during the IOD period

Tab. 2: Number of bearded vulture sightings for each region during the whole IOD period 2016. In the grey box the results for the focal day.

Sector	Country	Region	October 2016								
			8.	9.	10.	12.	13.	14.	15.	16.	
Eastern	A	Hohe Tauern NP	12			3	4	3	3	2	27
	IT	Southern Tyrol	9								9
Central	IT	Stelvio NP	114								114
	CH	Central Switzerland	4								4
	CH	Engadin	58								58
	CH	Wallis & Berner Oberland	24	8		7	1	1	4	1	46
North-Western	FR	Haut Savoie	122								122
	FR	Savoie	54								54
	IT	Valle d'Aosta & Gran Paradiso NP	22		1	3					26
South-Western	FR	Vercors	6								6
	FR	Mercantour	12		3						15
	FR	Dauphiné	4								4
	FR	Baronnies	5								5
	IT	Alpi Marittime - WAON	6								6
Massif Central	FR	Grands Causses	1								1
Total			453	8	4	13	5	4	7	3	497

Estimated number of bearded vultures

E_{foc} - Based on observations (focal day):

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 and the Massif Central, it is not possible to use data from the whole week (IOD-Period) due to the high mobility of the species. 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 (*E_{foc}* = estimate based on observations (focal day) Table 3). Furthermore, regional coordinators were requested to communicate with nearby partners to avoid double counting of bird individuals.

E_{hyp} - Hypothetically present birds:

During the focal day it is not possible to observe and identify every single bird that is known to be present in a specific region. A second estimate (*E_{hyp}* = hypothetically present birds) composed of the estimate based on observations (focal day) *E_{foc}* and the number of individuals that were missed during the survey but that should be present in the region (e.g. territorial breeding pairs) should therefore give a picture about the expected number of bearded vulture individuals on the regional level (Table 3).

However, as the number of counted birds during the IOD depends on weather conditions, these estimates are thus best used as a proxy for population trends and to be compared between years rather than directly and solely for population size estimation.

Tab. 3: Estimates of minimal (conservative) and the maximal (optimistic) number of bearded vulture individuals observed during the focal day (*E_{foc}*) and hypothetically present (*E_{hyp}*) in each region during the IOD 2016.

Sector	Country	Region	Based on observations (focal day) - <i>E_{foc}</i>		Hypothetically present birds - <i>E_{hyp}</i>	
			min	max	min	max
East	AUT	Hohe Tauern NP	9	11	10	14
	CHE	Central Switzerland	1	1	1	1
Central	CHE	Engadin	34	38	43	51
	ITA	Stelvio NP	16	19	18	21
	ITA	Southern Tyrol	5	5	7	10
			56	63	69	83
North-West	ITA	Valle d'Aosta & Gran Paradiso NP	12	13	14	16
	CHE	Wallis & Berner Oberland	14	18	17	24
	FRA	Haute Savoie	15	19	16	22
	FRA	Savoie	20	27	20	27
			61	77	67	89
South-West	FRA	Baronnies	1	1	1	1
	FRA	Dauphiné	3	4	3	4
	FRA	Mercantour	11	12	12	13
	FRA	Vercors NP	3	3	3	4
	ITA	Alpi Marittime - WAON	4	6	6	9
		22	26	25	31	
Massif Central	FRA	Grands Causses	1	1	1	1
Grand Total			149	178	172	218

The resulting total estimated number of observed bearded vultures during the focal day E_{foc} is of minimum 149 and maximum 178 individuals and the total estimate of birds that should hypothetically be present E_{hyp} within the monitoring area is of minimum 172 and maximum 218. These numbers are higher compared to the results obtained during the IOD 2013 and 2014, which were, in contrast to 2015 and 2016, subjected to poor weather conditions (Table 4).

Tab. 4: Comparison of the estimated number of bearded vultures based on the survey during the IOD 2016 and the results from 2013, 2014 and 2015.

	Based on observations (focal day) - E_{foc}		Hypothetically present birds - E_{hyp}	
	Minimum	Maximum	Minimum	Maximum
IOD 2016	149	178	172	218
IOD 2015	120	153	166	199
IOD 2014	87	95	112	130
IOD 2013	87	98	117	128

These estimates of hypothetically present birds E_{hyp} represent 70% (conservative) or 89% (optimistic) of the total population that is predicted by the demographic model from Schaub et al. 2009 (predicted population size = 246) and are similar to the estimates from last year with similar weather conditions (73% resp. 88%). However, looking at the estimates based on observations only, it was possible to observe 61% or 72% respectively of the birds predicted by the model.

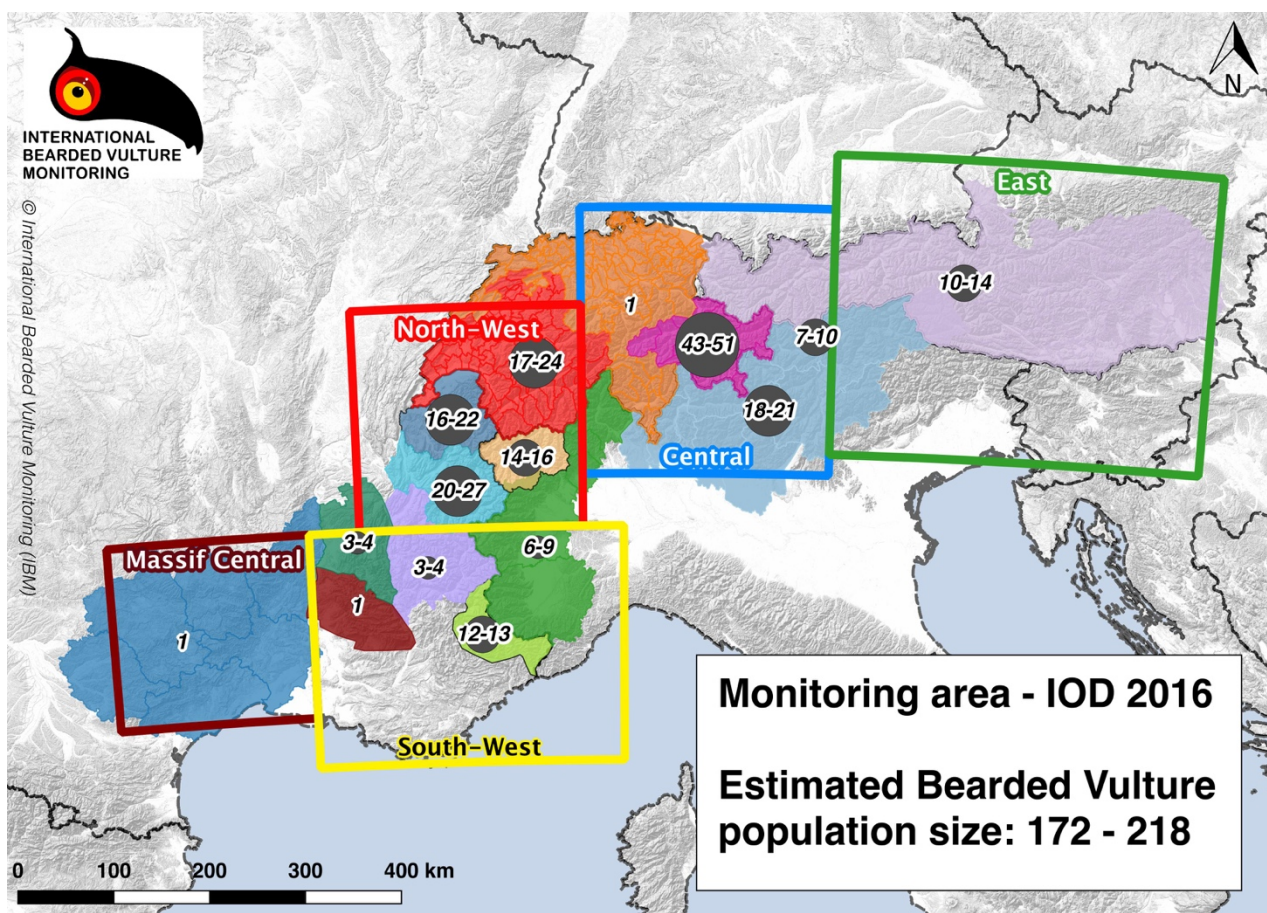


Fig. 4: Overview of the estimated bearded vulture population size E_{hyp} on the regional level within the monitoring area of the IBM. Estimates of the populations size are based on estimates derived from observations during the focal day of the IOD 2016 E_{foc} and birds that were not observed but should be present in the region (territorial and GPS-tagged birds = hypothetically present birds).

Proportional distribution of age classes

By 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. Comparing the results from the absolute numbers of observations with the estimated number of individuals per age class indicates that even though there is some variation, observation data can be used as an estimate for the age class distribution.

Most of the birds observed during the focal day on IOD 2016 were adults followed in numbers by the immatures and juveniles (Table 5). In fact, similarly to last year's results, the proportion of sighted birds aged in their 5th calendar year or older (potentially in age to establish a territory) almost reaches 2/3 of the total number of observations.

Tab. 5: Proportion of bearded vultures per age class based on observations reported during the focal during the IOD 2016. Based on these observations the regional coordinators estimated a minimal and maximal number of bearded vultures per age class (estimated from observations E_{foc}). The estimate of the birds that are hypothetically present also includes territorial birds and birds that are known to be present in the region (estimated hypothetically present E_{hyp}).

Age class	Observed 2015	Observed 2016	Estimated from observations	Estimated hypothetically present
	absolute	absolute	mean (min/max)	mean (min/max)
Adult	222 (53%)	274 (60%)	86 (52%)	113 (58%)
Subadult	40 (10%)	20 (4%)	13 (8%)	13 (7%)
Immature	59 (14%)	62 (14%)	31 (19%)	31 (16%)
Juvenile	42 (10%)	53 (12%)	27 (17%)	31 (16%)
unknown	54 (13%)	44 (10%)	8 (<5%)	8 (<4%)
Total	417	453	165	196

The results were compared to the expected number of living individuals per age class derived by the demographic model designed by Schaub et al. (2009) (Table 6).

Tab. 6: Predicted number of bearded vultures per age class according to the demographic model by Schaub et al. 2009 in comparison to the estimated number of birds that should hypothetically be present based on observation data (IOD 2016) and expert knowledge from regional coordinators. (*mean of minimal = 172 and maximal = 218 estimated number of hypothetically present bearded vultures).

	Year	Juvenile %	Immature %	Subadult %	Adult %	Total
Demographic model	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
	2015	29 13	58 26	32 15	107 47	227
	2016	33 13	64 26	33 13	116 47	246
Survey	IOD 2016	31 16	31 16	13 7	113 58	196*

The results from table 6 indicate that the percentage of juveniles and adults coincide quite well with the model predictions, while the number of immatures and subadults are both underestimated by the observations from the IOD.

There are multiple and additive explanations for the observed discrepancies in the age class distribution.

- 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 sites were situated 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 regularly visited.
- In general it is considered difficult for non professional ornitologist to determine the age of young vultures (especially subadult and immature) and could therefore represent the number of observations under the category “unknown”.
- 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.
- 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 exactly.

Spatial distribution of age groups

From 528 sites 497 bearded vulture sightings have been recorded during the whole period, 453 during the focal day (Table 2). 77 observation sites reported only sightings of adult bearded vultures, at 36 sites both age groups, adult and non-adult (juvenile, immature, subadult), have been identified, 51 sites report the presence of non-adult birds only and at 18 sites it was not possible to determine the age class of the animals at all (Figure 5).

In terms of reintroduction and resettlement of a species like the bearded vulture, it is of interest to gain a picture of the spatial distribution of different age classes. In particular, the presence of sexually mature adult birds can be an indicator for the formation of new reproductive units in the periphery of the species distribution.

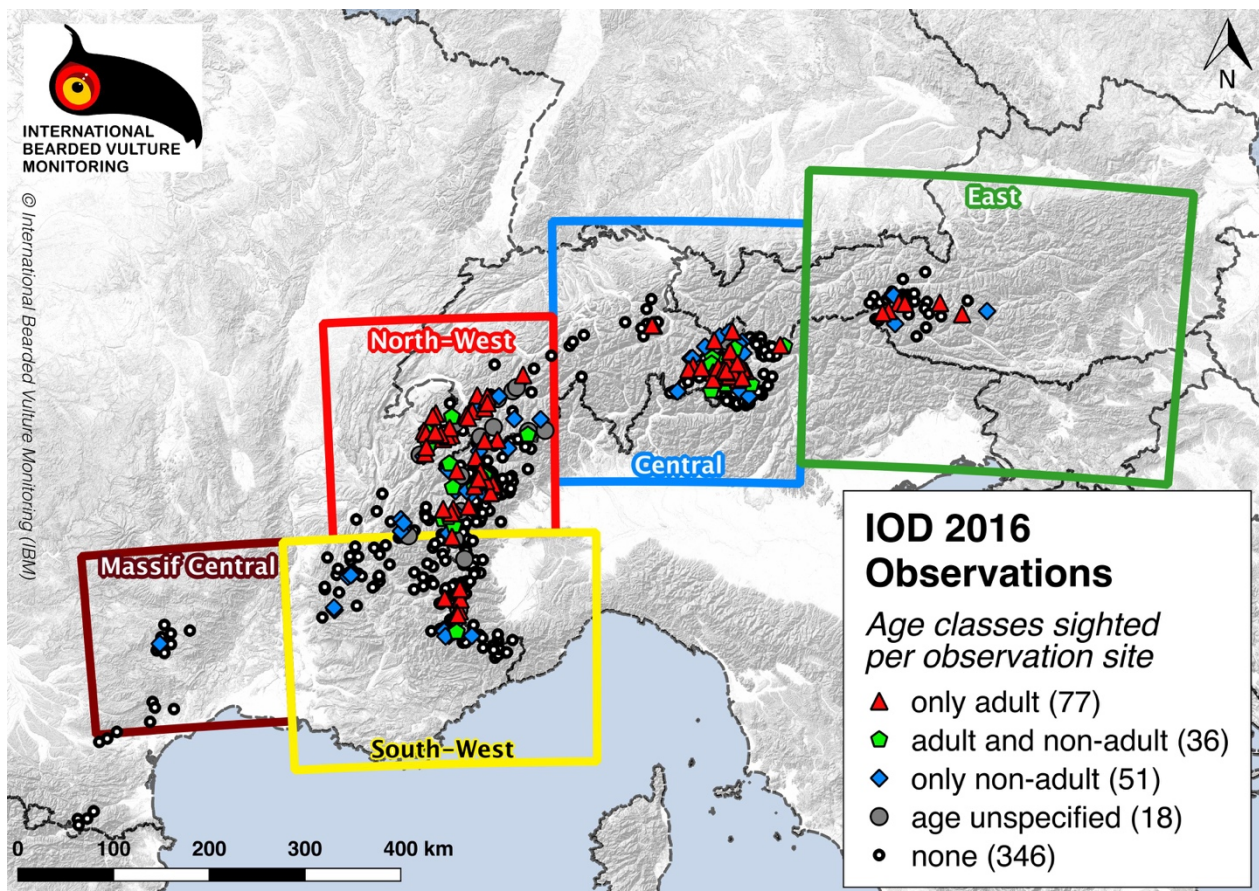


Fig. 5: Overview of the distribution of adult and non-adult (juvenile, immature, subadult) bearded vulture presence. Each symbol on the map represents the position of an observation site which either reported the sighting of only adult, both adult and non-adult, only non-adult, unspecified bearded vultures or no sighting at all.

Spatial age group distribution at the regional scale

The following figures 6-10 show the presence of bearded vultres subdivided in the two age groups adult and non-adult (juvenile, immature, subadult) at the regional level and give a more detailed overview on the bearded vulture distribution during the whole observation period. Each symbol on the map represents the position of an observation site.

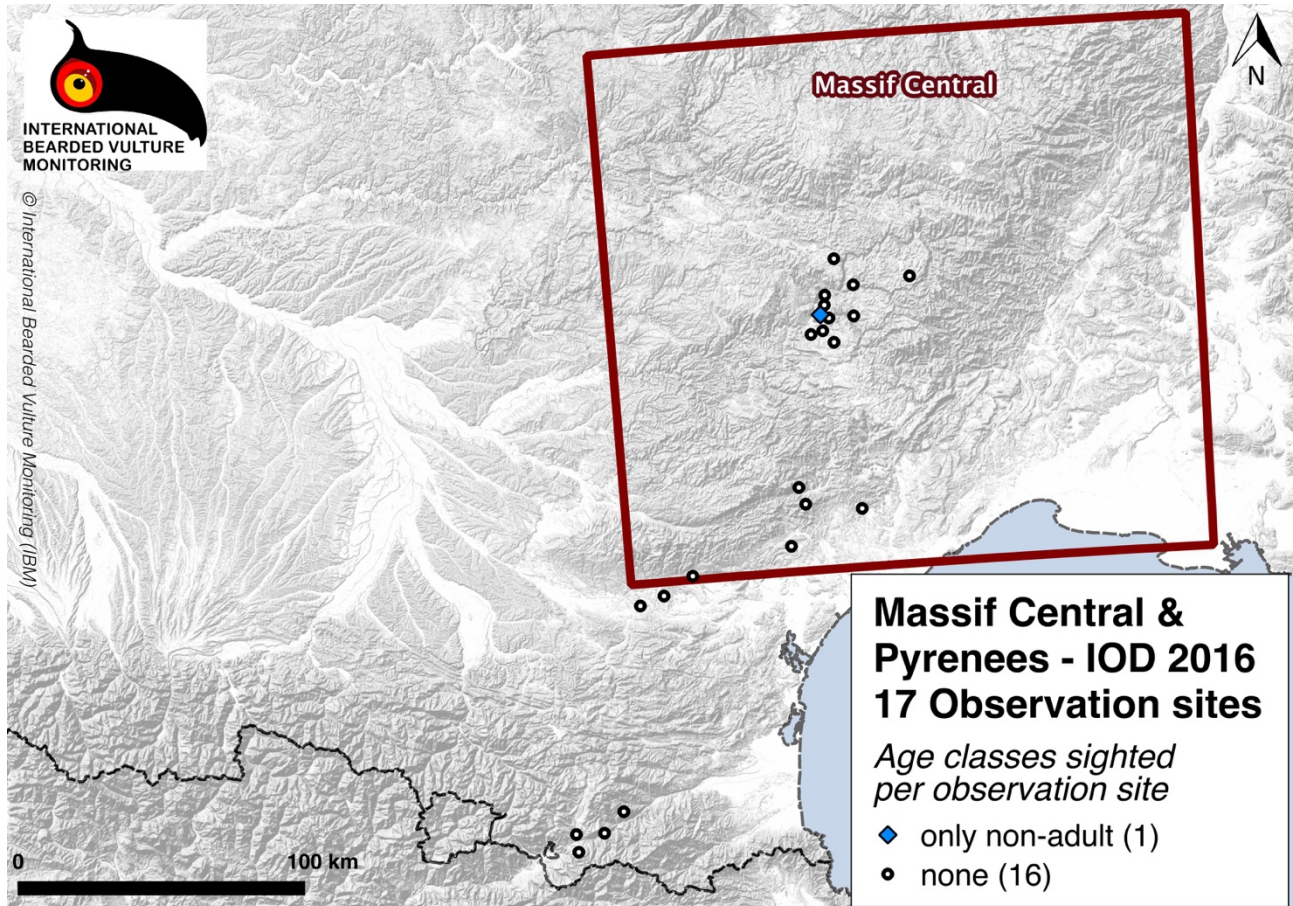


Fig. 6: Grands Causses and south Massif Central, distribution by age groups adult and non-adult (juvenile, immature, subadult) that were reported on the 17 observation sites. Estimated number of bearded vulture individuals in this sector: 1 subadult.

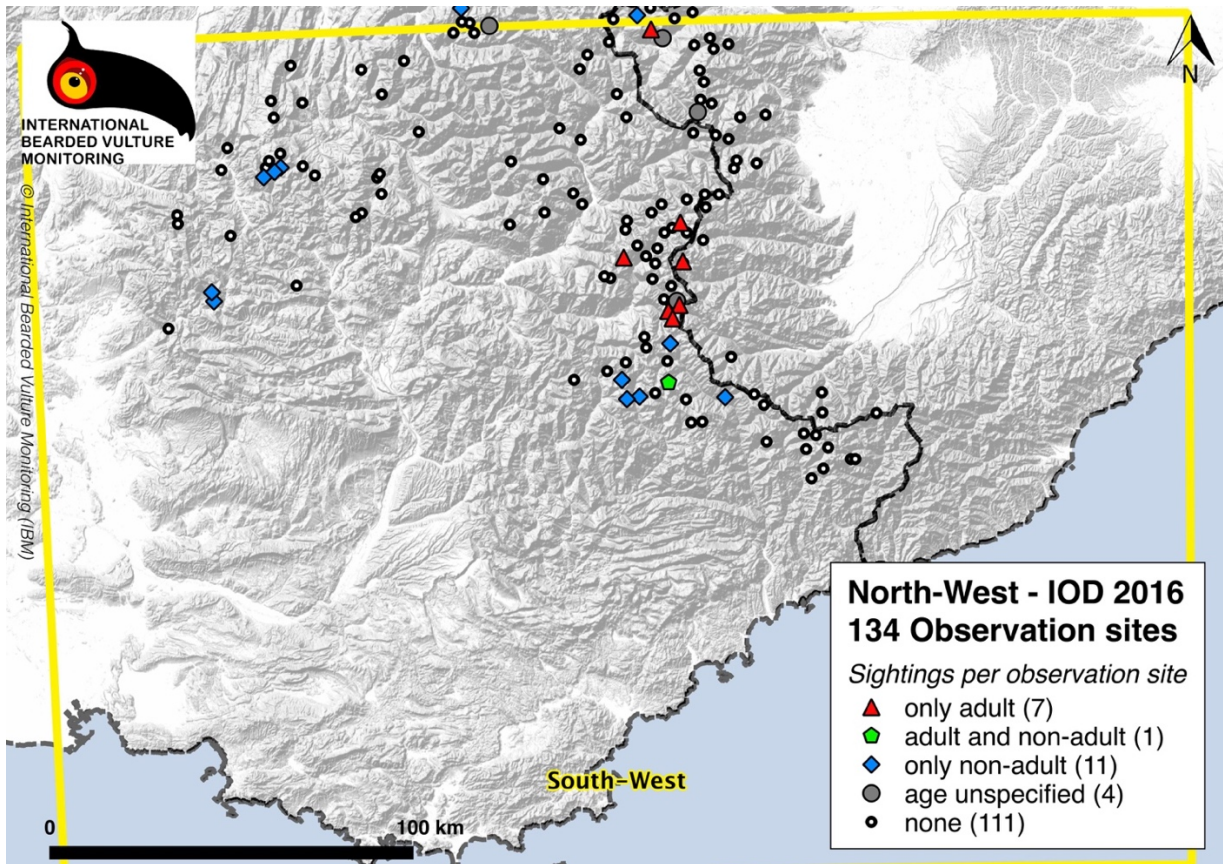


Fig. 7: South-Western Alps, distribution by age groups adult and non-adult (juvenile, immature, subadult) that were reported on the 134 observation sites. Estimated number of bearded vulture individuals in this sector: 11-12 adult, 2 subadult, 5 immature, 7-8 juvenile and ≤ 4 unspecified birds.

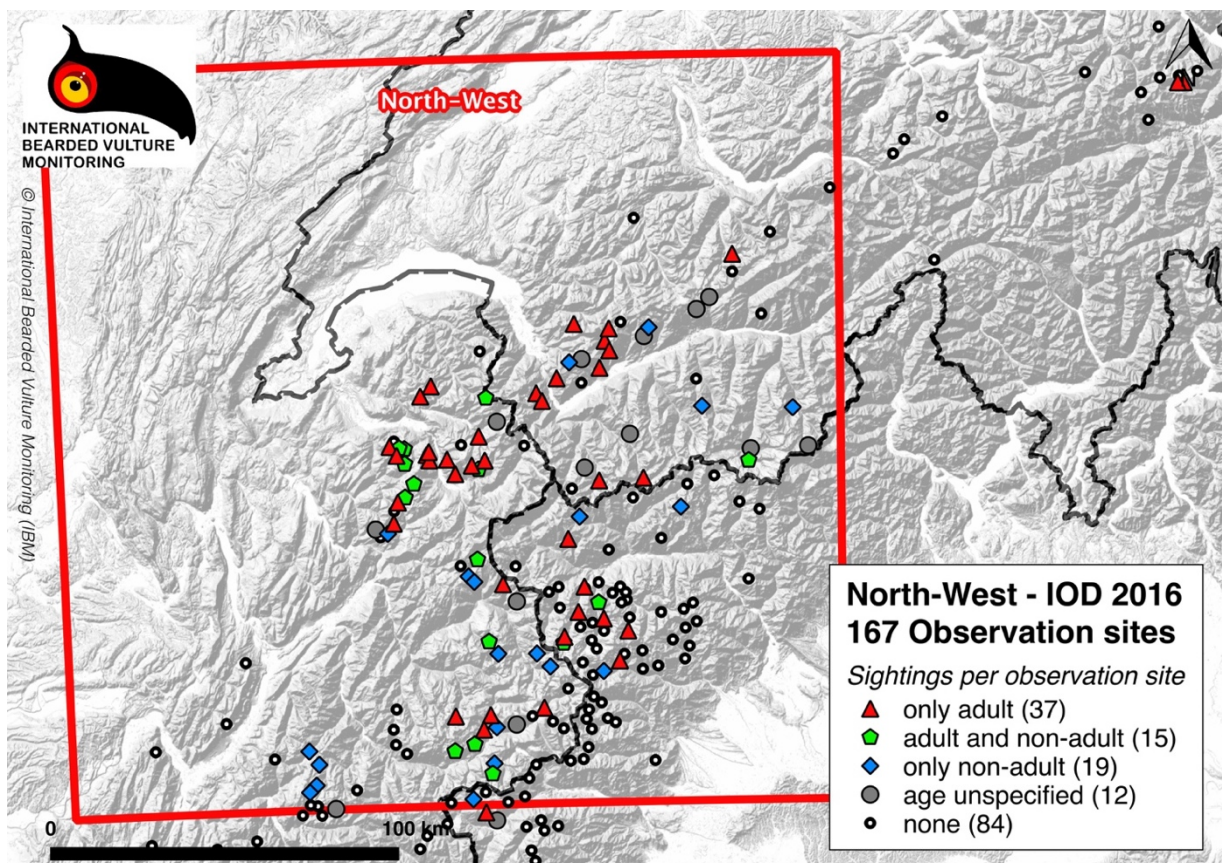


Fig. 8: North-Western Alps, distribution by age groups adult and non-adult (juvenile, immature, subadult) that were reported on the 167 observation sites. Estimated number of bearded vulture individuals in this sector: 42-48 adult, 6-7 subadult, 12-17 immature, 6-11 juvenile and ≤ 6 unspecified birds.

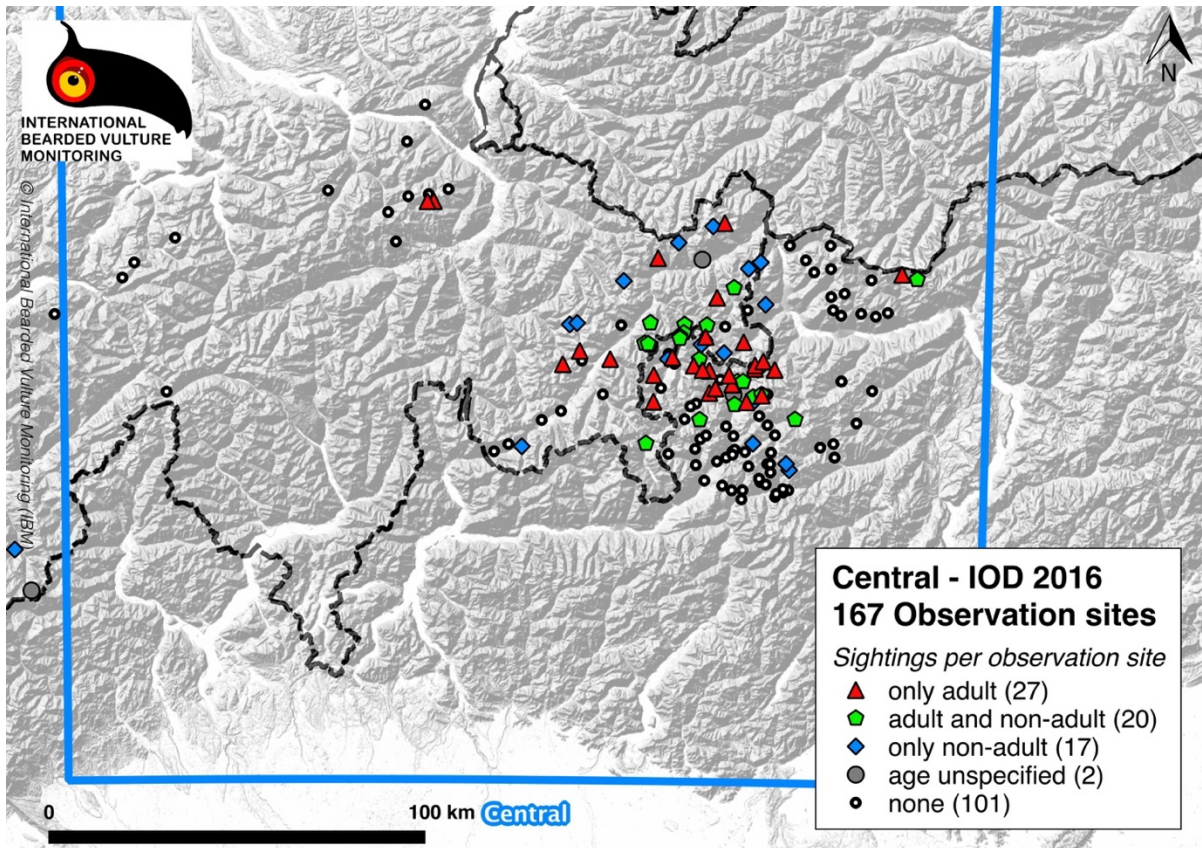


Fig. 9: Central Alps, distribution by age groups adult and non-adult (juvenile, immature, subadult) that were reported on the 167 observation sites. Estimated number of bearded vulture individuals in this sector: 45-53 adult, 3 subadult, 9-11 immature, 10-14 juvenile and ≤ 2 unspecified birds.

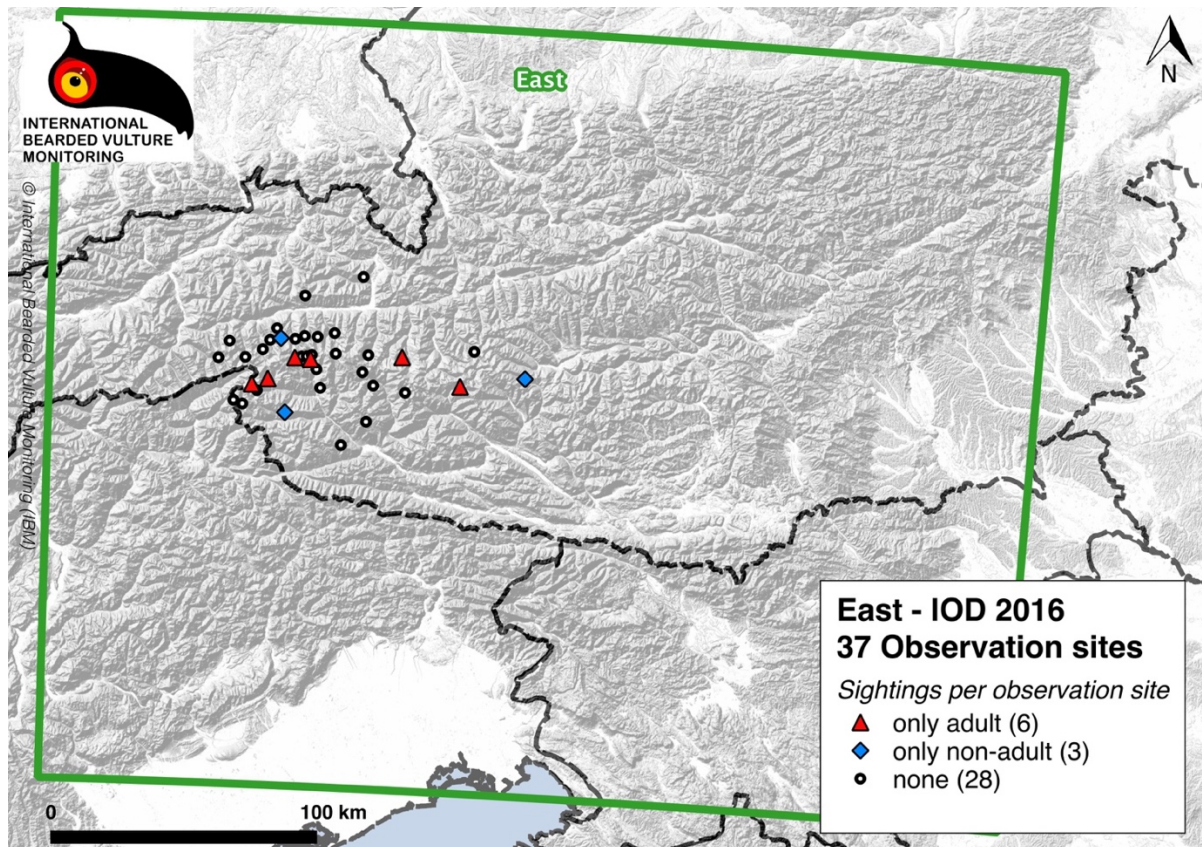


Fig. 10: Eastern Alps, distribution by age groups adult and non-adult (juvenile, immature, subadult) that were reported on the 37 observation sites. Estimated number of bearded vulture individuals in this sector: 6-9 adult, ≤ 1 subadult, 1 immature and 2 juvenile birds.

Telemetry data during the IOD

During the observation period also the GPS positions of 19 young bearded vultures with satellite tags have been retrieved (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. An exception are the two wild-born birds Gemapi and Neige which have been GPS-tagged but not marked by bleaching their feathers. During this year's IOD, out of 19 GPS-tagged birds 8 individuals could be sighted and identified, while 2 birds were identified with high probability by observers (more than 50% of the GPS-tagged birds have been sighted and identified). However, it is possible that more than 11 of these 19 tagged birds have been observed but couldn't be identified as they were too far away for example.

GPS data can also serve as an indicator to assess the risk of double counting of individuals. Especially young bearded vultures tend to fly over long distances and figure 11 shows that birds can travel quite long distances in the course of one single day and could therefore be counted at several different observations sites in different regions (e.g. Cierzo or Alois).

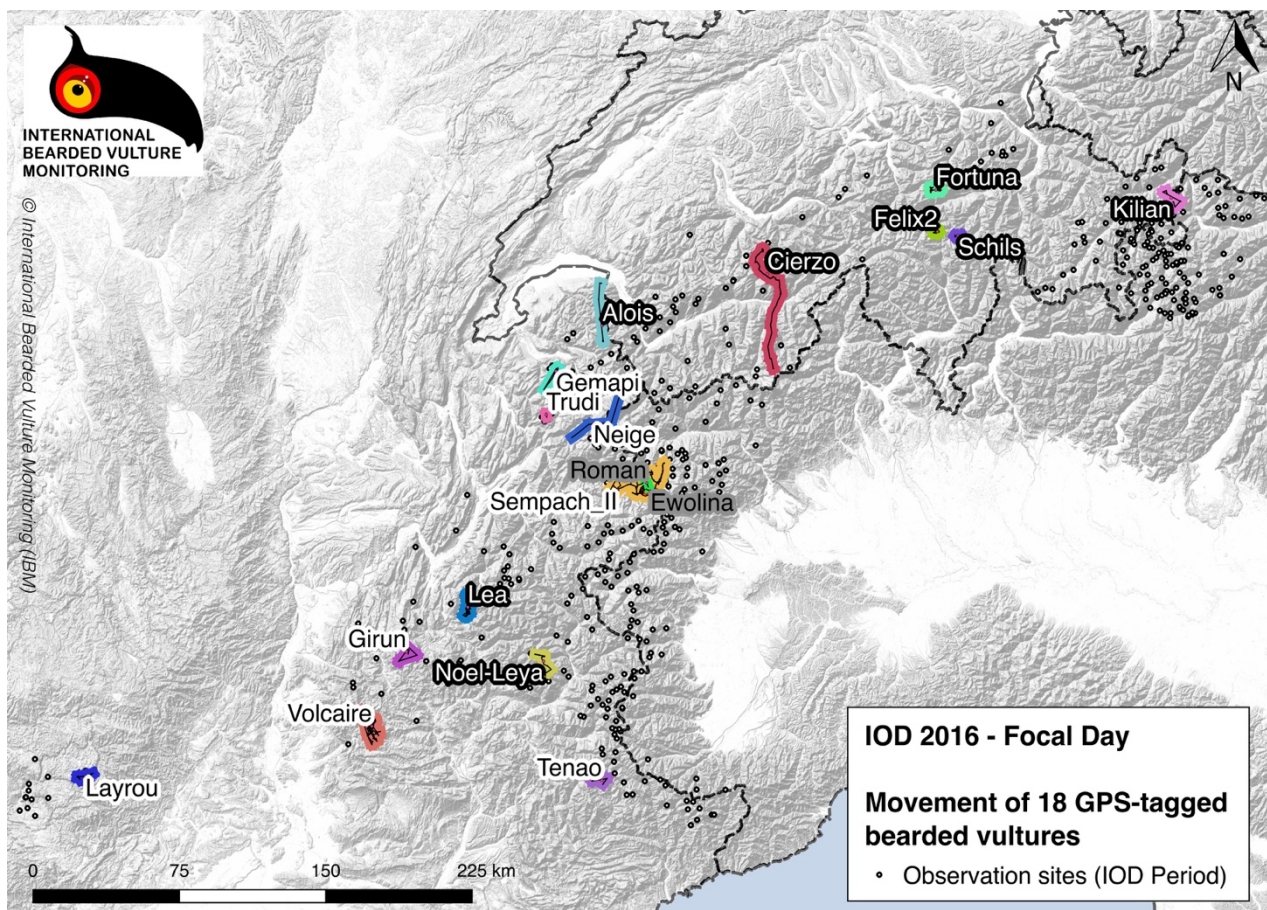


Fig. 11: Positions of 18 bearded vultures tagged with GPS transmitters that were present in the monitoring area during the focal day 8.10.2016. During the IOD-Period 8 birds have been identified (white outline), 2 birds have been identified with high probability (grey outline) and 8 birds couldn't be identified (black outline). Adonis (BG794) was located further east and is not visible on this map. Notice: bearded vultures (eg. Cierzo) are able to travel long distance within 1 day and could therefore be double counted at different observation sites.

Identified individuals

Tab. 7: List of bearded vultures that were identified during the IOD 2016 grouped by the region where they have been observed. Twelve individuals were tagged with GPS, however there is no telemetry data available from Charlie and Lucky during the IOD-period¹. Seven individuals that could not be identified with certainty are marked with an asterix (*).

Nr.	Name	Bird-ID	Sex	Age (cy)	Territory	Region	Sector	
1	Charlie (GPS ¹)	910	f	2	-	Hohe Tauern NP	East	
2	Lucky (GPS ¹)	909	m	2	-			
3	Andreas Hofer	260	m	22	Gastein/Rauris			
4	Kruml4	W201	u	2	Gastein/Rauris			
5	Parent2	-	-	-	Gastein/Rauris			
6	Glocknerlady *	718	f	6	Gschlöß			
7	Pinzgarus	558	m	10	Gschlöß			
8	Katschberg2016	W202	u	2	Katschberg			
9	Sardona	624	m	8	-	Central Switzerland	Central	
10	Diana-Stelvio	W07	f	18	Albula	Engadin		
11	Tantermozza	W46	u	11	Albula			
12	Bergün2016	W187	u	2	Bergün			
13	Parent1	-	-	-	Buffalora			
14	Parent2	-	-	-	Buffalora			
15	Tommy Livigno *	W22	u	14	Foraz			
16	Maloja2016	W184	u	2	Maloja			
17	Livigno	W08	u	18	Ofenpass			
18	Ofenpass2016	W206	u	2	Ofenpass			
19	Ortler	439	f	14	Ofenpass			
20	Parent1	-	-	-	Poschiavo			
21	Parent2	-	-	-	Poschiavo			
22	Poschiavo2016	W190	u	2	Poschiavo			
23	Moische-Livigno	W11	f	16	Sinestra			
24	Samuel	526	m	11	Sinestra			
25	Sinestra2016	W197	u	2	Sinestra			
26	Parent1	-	-	-	Spöl			
27	Parent2	-	-	-	Spöl			
28	Spöl2016	W192	u	2	Spöl			
29	Martell	395	f	16	Tantermozza			
30	Tantermozza2016	W195	u	2	Tantermozza			
31	Zebbru	W12	m	16	Tantermozza			
32	Parent1	-	-	-	Trupchun			
33	Parent2	-	-	-	Trupchun			
34	unknown	-	-	-	Grosina			Stelvio NP
35	Cic	186	m	25	Livigno			
36	Moische	146	f	27	Livigno			
37	Parent1	-	-	-	Ortler			
38	Parent2	-	-	-	Ortler			
39	Stift	393	f	16	Valle del Braulio			
40	Tell	283	m	21	Valle del Braulio			
41	Felice	375	f	17	Zebbru			
42	Heinz-Serraglio	W45	u	11	Zebbru			

43	Ewolina * (GPS)	838	f	3	-	Aosta
44	Roman * (GPS)	854	m	3	-	
45	Parent1 *	-	u	-	<i>Bargy BIS</i>	Haut Savoie
46	Trudi (GPS)	842	f	3	-	
47	GT028	-	m	19	<i>Aravis</i>	
48	GT046	-	f	-	<i>Aravis</i>	
49	Neige (GPS)	W198	u	2	<i>Aravis</i>	
50	Parent1	-	-	-	<i>Aravis Sud</i>	
51	Parent2	-	-	-	<i>Aravis Sud</i>	
52	Assignat	111	f	29	<i>Bargy</i>	
53	Balthazar	99	m	30	<i>Bargy</i>	
54	Gemapi (GPS)	W196	u	2	<i>Bargy</i>	
55	Parent2	-	-	-	<i>Bargy BIS</i>	
56	Parent1	-	-	-	<i>Passy</i>	
57	Parent2	-	-	-	<i>Passy</i>	
58	Montblanc	361	m	18	<i>Sixt Fiz</i>	
59	Veronika	321	f	19	<i>Sixt Fiz</i>	
60	Sempach 2 (GPS)	841	f	3	-	Savoie
61	Beaugosse	-	f	-	<i>Andagne</i>	
62	Nonno Bob	548	m	10	<i>Andagne</i>	
63	Pirou	W185	u	2	<i>Peisey-Nancroix</i>	
64	Gelas	279	f	21	<i>Termignon</i>	
65	Stelvio	W02	u	20	<i>Termignon</i>	
66	Michegabri	488	m	12	<i>Chamoussière</i>	Valle d'Aosta & Gran Paradiso NP
67	Parent2	-	-	-	<i>Chamoussière</i>	
68	Parent1	-	-	-	<i>Val di Rhemes</i>	
69	Parent2	-	-	-	<i>Val di Rhemes</i>	
70	Parent3	-	-	-	<i>Val di Rhemes</i>	
71	Parent1	-	-	-	<i>Valnontey</i>	
72	Parent2	-	-	-	<i>Valnontey</i>	
73	Parent1	-	-	-	<i>Bagnes</i>	Wallis & Berner Oberland
74	Parent2	-	-	-	<i>Bagnes</i>	
75	Parent1	-	-	-	<i>Dents-du-Midi</i>	
76	Parent2	-	-	-	<i>Dents-du-Midi</i>	
77	Gildo *	299	f	20	<i>Derborence_Vérouet</i>	
78	Guillaumes *	411	f	15	<i>Derborence_Vérouet</i>	
79	Pablo	359	m	18	<i>Derborence_Vérouet</i>	
80	Matti_zermatt	W207	u	2	<i>Zermatt</i>	
81	Parent2	-	-	-	<i>Zermatt</i>	
82	Smaragd	675	m	7	<i>Zermatt</i>	
83	Volcaire (GPS)	905	m	2	-	Baronnies
84	Herculis	849	m	3	-	Mercantour
85	Tenao (GPS)	755	m	5	-	
86	Bellemotte	708	f	6	<i>Bonette</i>	
87	Parent1	-	-	-	<i>Bonette</i>	
88	Girasole	549	f	10	<i>Source de la Tinée</i>	
89	Tinee	W191	u	2	<i>Source de la Tinée</i>	
90	GT036	-	f	-	<i>Source de IUbaye</i>	
91	Sereno	348	m	18	<i>Source de IUbaye</i>	
92	Gerlinde	759	f	5	-	Vercors
93	Girun (GPS)	904	f	2	-	
94	Kirsi	764	m	5	-	

North-West

South-West

95	Layrou (GPS)	761	m	5	-	Grands Causses	Massif Central
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During the IOD 2016 period 88 individuals have been identified with high probability, while another 7 birds could not have been identified with certainty (marked with an asterix (*) in table 7). The 88 identified birds account for almost 36% of the total estimated population size predicted by the demographic model by Schaub et al. 2009 (246 individuals).

The identified birds are mostly territorial birds with their chicks or recently released birds. 61 of the identifications allow to refer back to bearded vultures with Bird-IDs that are registered in the IBM data base and can therefore be used to follow the life history of individual birds. In the case of the bearded vulture Sardona (BG624) the observation during the IOD 2016 has been the first sign of life within the last 2 years (last observation in August 2014).

OUTLOOK 2017

The IBM steering committee fixed the date for the next International Observation Day:

Period 7th - 15th of October 2017













Focal Day is the 7th of October 2017.

Even though, for public communication, again a period of one week 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 and volunteers on observation posts shall be carried out only during the focal day.**

The focal time for the count starts at 11 am until at least 3 pm.

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