

IOD 2020

15th International Bearded Vulture Observation Days

Focal day - October 3rd 2020 IOD Period - October 3rd-10th 2020



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The IOD 2020 were organised by the following IBM-members¹ and associated organisations²:

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LANDESBUND VOGELSCHUTZ BAYERN - LBV 1

NATIONALPARK HOHE TAUERN ¹

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Nationalpark Hohe Tauern





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Asters





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The International Observation Days (IOD) are an annual monitoring event for Bearded Vultures organised by the International Bearded Vulture Monitoring network (IBM). The monitoring action takes place in the first two weeks of October with a synchronous and coordinated survey on the focal day and covers large parts of the Alpine arc (since 2006), parts of the Massif Central (since 2012), the eastern part of the French Pyrenees (since 2016), several regions in Spain (since 2017), some selected sites in Bulgaria (since 2018) and the High Atlas (since 2019). The aim of this expanding network is to establish a Europe-wide monitoring of the Bearded Vulture population where time-synchronised observations on the focal day allow to make an approximate estimate of the population size and age class distribution. A monitoring action of this scale and the fact that birds are identified on an individual level whenever possible, is unique and generates baseline information for survival analyses and demographic modelling, which give valuable insight into the reintroduction progress. Furthermore, the number of participants during the IOD increases every year and thus the IOD represents a big public event that helps to increase awareness for the conservation of the Bearded Vulture as a flagship species.

1 Abstract

Despite the unfavourable weather situation in most of the Alpine range on this year's focal day (3.10.2020) more than 790 observers joined the IOD 2020 and reported 483 Bearded Vulture observations. Beside the 499 occupied observation sites some others were not accessible due to snowfall at even low altitudes on the focal day, which is why the monitoring event was locally postponed until later in the IOD period. Thus, the coordination work of the regional responsibilities of 15 IBM-partners and several associated organisations was all the more important because they know the local conditions and their monitoring teams. Thanks to their efforts and the support of numerous volunteers, ornithologists, park staff, hunters, gamekeepers and many more, the IOD, the largest international Bearded Vulture monitoring event, could still be carried out for the 15th time in a row.

In order to obtain a reliable Alpine population estimate, synchronous monitoring over a large part of the area is necessary to avoid double counting. However, due to limited access or poor visibility in many regions, the monitoring network could not be covered as in previous years. In addition, it must be assumed that fewer Bearded Vultures were observed flying at sites with bad weather, as a consequence of the unfavourable thermal conditions. Because of these limitations, no reliable estimate of the Alpine Bearded Vulture population or its age class distribution could be made in 2020. Nevertheless, in the Alps it was possible to identify 27 Bearded Vulture individuals with certainty, while a further 22 birds could be identified with slightly lower probability. These data provide important information on the life-history of these animals and can serve to calculate parameters for demographic modelling. Out of 38 GPS-tagged animals that sent data during the IOD period 2020, only 10 individuals could be identified. Thanks to GPS-tagging, we therefore understand how difficult it can be to identify animals and thus how valuable identification data is.

The Spanish IBM-partners profited from favourable weather conditions and estimated the Bearded Vulture population in Andalusia, Castilla y León, Castilla la Mancha, Murcia and Valencia with a minimal and maximal number of 28 and 45 Bearded Vultures, respectively. Furthermore, they were able to identify 20 Bearded Vulture individuals. In the French Pre-Pyrenees, the moderate weather situation allowed to estimate the local population at 8-14 individuals, while the IOD was cancelled in the Massif Central due to bad weather forecast. Same as in the last two years, no Bearded Vultures have been observed in Bulgaria where the species has been considered extinct since 1972.

The experiences of this year have confirmed that only a comprehensive monitoring network with synchronous observations allow to estimate the population size within a wide-ranging area such as the Alpine range. The IBM-network has been pursuing this goal since 1999 and in the course of time hundreds of Bearded Vulture enthusiasts have joined the network and are willing to support this project even under harsh weather conditions.

2 Key facts

Monitoring organisation

- 15 IBM-partners and several associated organisations coordinated the IOD 2020
- despite the harsh weather conditions 792 observers participated in Austria, Bulgaria, France, Germany, Italy, Spain and Switzerland
- 423 sites were occupied during the focal day (3.10.2020) another 76 during the IOD period
- weather situation at the observation sites: 36% good, 21% moderate and 43% unfavourable

Observation results

- 483 Bearded Vulture observations during the IOD period, 434 of them on the focal day 03.10.2020
- Bearded Vultures observed at 176 out of 499 sites (35%)
- observed age class distribution (number of observations)
- adult (N = 278, 58%)
- subadult (N = 13, 3%)
- immature (N = 99, 20%)
- juvenile (N = 43, 9%)
- unknown (N = 50, 10%)

Age class distribution & populations estimates

- estimated age class distribution in the alps (individuals)
- no synchronous census due to bad weather
- estimated number of Bearded Vulture individuals:

Alps: no synchronous census due to bad weather

Massif Central: no IOD due to bad weather

Pre-Pyrenees (FRA): 8-14
Spain¹: 28-45
Bulgaria: 0

Individual based data

- 27 (Alps) and 20 (Spain) individuals were identified
- 22 (Alps) individuals were probably identified
- GPS-data is available for 55 individuals during the IOD period 2020
- in the Alps 10 (~26%) of the 38 GPS-tagged individuals were identified by the observers

¹ Only for monitored parts (e.g. no survey in Spanish Pyrenees and other mountain ranges)

3 Preface

Due to bad weather conditions and snowfall down to lower altitudes on the focus day throughout the Alpine range, observations could only be carried out to a limited extent at many locations and had to be cancelled in others. Since synchronous observation and comprehensive monitoring was not possible, no estimates of population size can be derived for this year in most areas, especially in the Alps. Nevertheless, the observation of identified individuals provides valuable information and the commitment of many volunteers despite the harsh weather conditions shows the enthusiasm for the Bearded Vulture project and strengthens the monitoring community.

4 Methods

4.1 Organisation

The monitoring is coordinated and executed simultaneously over the four Alpine zones (eastern, central, north-western and southern Alps), in the Massif Central, in parts of the French Pyrenees, Spain and Bulgaria by local IBM-partners and associated organisations (*Figure 1*). This ultimately allows to gain information about Bearded Vulture presence thus avoiding/reducing the chance of double counts and allowing us to get the big picture of Bearded Vulture distribution.

In the previous years, monitoring was expanded towards the Pyrenees (department Aude in France) in order to reveal exchanges between the separated populations from the Alps and the Pyrenees. Since 2017, our Spanish colleagues (and new IBM-partner since 2019) organise the IOD within parts of Andalusia and Castilla y León and share their results with the IBM-network in order to contribute to get a wider picture about the Bearded Vulture population in western Europe. A new observer network is also establishing in the eastern parts of Europe in Bulgaria, where the *Green Balkans* participate at the IOD for the second time and thus raise awareness for the regionally extinct species.

As in the previous years, no IOD was organised on Corsica. Moreover, due to bad weather conditions, the IOD was not conducted in the Massif Central (FRA) and Vercors (FRA).

4.2 Time Period

The 2020's international survey was held between the 3rd and the 10th October with the focal day on Saturday 3rd of October. The buffer period of one week is chosen to allow more 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 (see <u>future dates</u>). The fact, that Bearded Vultures are active in nest building during October, makes this a suitable period to observe the birds and record possible new territories and breeding pairs.

4.3 Monitoring Area

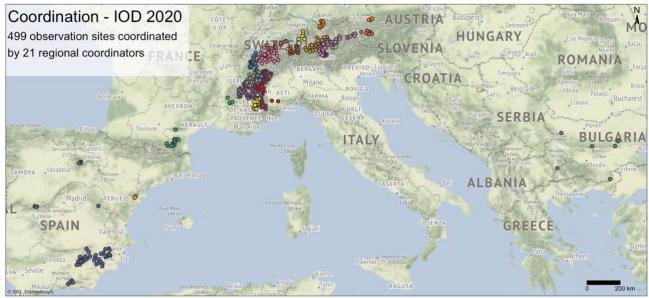


Figure 1. The IOD-monitoring area is regionally coordinated by 15 IBM-partners and associated organisations.

4.4 Data collection and observation protocol

Due to bad weather conditions the survey period varied considerably among regions and took place between 10:00 am and at least 15:00 pm. The teams are composed of one or more observers, at least one of them being experienced, equipped with binoculars and, depending on availability, telescope and camera. For each observation site and Bearded Vulture sighting the following information was recorded:

Observation site:

- Date and site occupancy (time)
- team/partner and observer names
- site name, address and coordinates
- weather conditions
- total number of observed Bearded Vultures
- presence/observation of other species

Bird observation:

- date
- time and duration of the observation
- age of the bird²
- bird name / hypothesis
- picture if possible

² In age classes: juvenile (1.cy), immature (2.-3.cy), subadult (4.-5.cy) adult (≥6.cy)

4.5 Data Analysis

Due to the bad weather conditions in the Alpine range, no population estimate can be made for this area this year. In the areas with suitable weather conditions, the procedure was the same as in previous years: All data is collected at the end of the day by the local administrators who will 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. GPS-tagged birds that were not observed, are added to the estimate and also serve as a measure for detection probability.

The population estimate should only base on data from the focal day in order to avoid that individuals are observed and thus counted twice in two different regions. Individual identification is challenging and 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.

4.6 Age classification

Per definition the IBM always uses calendar years (cy) for age specifications (Table 1).

Table 1	IRM.	-standard	age cl	assification.

Entry in the IBM	Calendar year	Real age	e (years)	1:6 1: .
(life stage)	(cy)	Jan-Feb	Mar-Dec	Life history event
juvenile (1. year)	1	-	0	hatch
immature (2. year)	2	0	1	non-territorial
immature (3. year)	3	1	2	non-territorial
subadult (4. year)	4	2	3	non-territorial
subadult (5. / 6. year)	5	3	4	potential nesting
adult (≥ 6. year)	6	4	5	potential breeding
adult (≥ 6. year)	≥7	5	≥6	potential breeding

5 Results and Discussion

5.1 Weather conditions

The overall weather situation was unfavourable in 2020 with 36% good, 21% mediocre and 43% bad weather situations at the observation sites (*Figure 2*). In 2019 only 1% of the sites reported unfavourable weather and therefor no comparison between the two years are possible. Unfavourable weather conditions decrease the detection probability of the individuals and should therefore be considered for the interpretation of the population estimates.

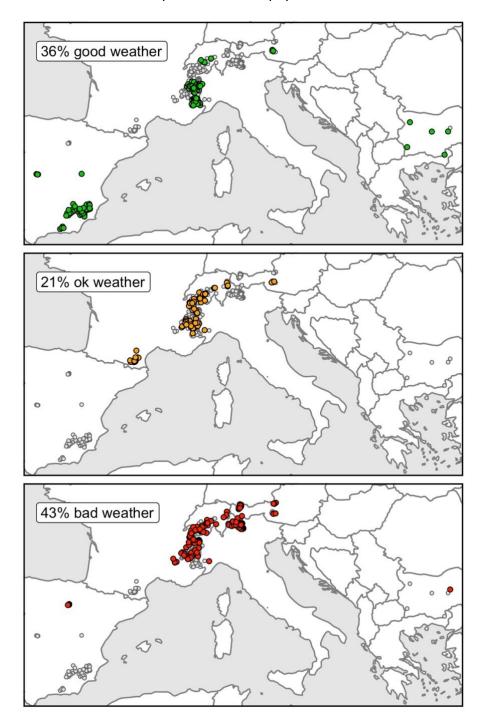


Figure 2. Weather conditions at the observations sites reported by the observers in the field during the IOD 2020. Only one thrid of the observers (36%) profited from good weather conditions and in some regions the survey had to be cancelled due snowfall, rain or poor visibility.

5.2 Observation data

In 2020, despite the unfavourable weather conditions a total of 792 observers have occupied 499 observation sites in the Alps, in the French Pyrenees (department "Aude"), parts of Spain as well as Bulgaria (*Figure 3* and *Table 2*).

As 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. As it is known, that Bearded Vultures in Spain move between the mountainous areas in the South and the region of Castilla y Léon, Castilla-La Mancha and La Rioja in the North, the observer network has been expanded in these areas.

In the eastern part of Europe, in Bulgaria several observations sites were also occupied for the first time in 2018, even though so far, no Bearded Vultures are known to be present in this region. However, in the future this region could serve as a stepping-stone area between the Alpine and Greek Bearded Vulture population and to establish an observer network in this area thus makes sense in the long-term perspective.

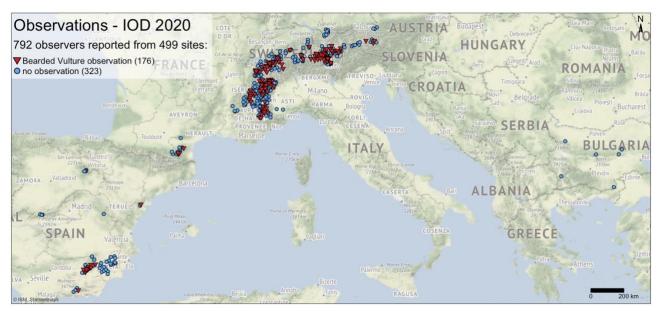


Figure 3. Distribution of all 499 observation sites during the IOD 2020 in Europe. Red triangles depict those sites where Bearded Vultures have been observed at least once during the IOD period 3^{rd} - 10^{th} of October 2020 (N=176) while no observations have been reported from sites marked with a blue dot (N=323).

Table 2. Number of observation sites and observers per region during the IOD 2020 (focal day 03.10.2020).

7	Carratur	Dagion		Occup	oied sit	tes in C	October	2020		Total	Observers	
Zone	Country	Region	3.	4.	5.	7.	8.	9.	10.	Iotai	Observers	
Alpine range			349	13	3	3	3	3	51	425	698	
	AUT	Kärnten	2							2		
	AUT	Salzburg	5							5		
East	AUT	Tirol	1							1	21	
	DEU	Bayern	2							2		
	ITA	Trentino-Alto Adige							8	8		
	AUT	Tirol	1							1		
	AUT	Vorarlberg	1							1		
	CHE	Central Switzerland	9						1	10		
	CHE	Eastern Switzerland	30							30		
Central	CHE	Ticino	7						12	19	219	
	CHE	Western Switzerland	3							3		
	DEU	Bayern	8							8		
	ITA	Lombardia	48							48		
	ITA	Trentino-Alto Adige	2						22	24		
	CHE	Western Switzerland	34	3	3	3	2	3	1	49		
North-West	FRA	Rhône-Alpes	63	1			1			65	268	
North-west	ITA	Piemonte	16	4					7	27	208	
	ITA	Valle d'Aosta	9	5						14		
	FRA	Provence-Alpes-Côte d'Azur	53							53		
South-West	FRA	Rhône-Alpes	15							15	190	
	ITA	Piemonte	40							40		
Massif Central	FRA	Languedoc-Roussillon	1							1	1	
Pre-Pyrenees	FRA	Languedoc-Roussillon	12							12	20	
Spain (without	Pyrenees											
Spain (Without	ESP	Andalucía	21							21		
	ESP	Castilla y León	3							3		
	ESP	Castilla-La Mancha	5							5		
	ESP	Comunidad Valenciana	2							2	66	
	ESP	La Rioja	4							4		
	ESP	Región de Murcia	20							20		
Bulgaria		J										
_ 3.04	BGR	Blagoevgrad	1							1		
	BGR	Haskovo	1							1		
	BGR	Montana	1							1	7	
	BGR	Sliven	2							2	•	
	BGR	Stara Zagora	1							1		
City to Lice				4.0	_	_			F.4		700	
Sites total IOD	2020		423	13	3	3	3	3	51	499	792	

Table 3. Number of Bearded Vulture sightings for each region during the whole IOD period 2020 (focal day 03.10.20). O values indicate dates where sites were occupied but no Bearded Vulture have been observed.

Zone	Country	Region	Beard	ed Vult	ulture observations in October 2020				er 2020	Total
20110	Country	Кевіон	3.	4.	5.	7.	8.	9.	10.	Total
Alpine range			390	8	4	4 3 4 4 26		26	439	
	AUT	Kärnten	2							2
	AUT	Salzburg	2							2
East	AUT	Tirol	2							2
	DEU	Bayern	0							0
	ITA	Trentino-Alto Adige							0	0
	AUT	Tirol	1							1
	AUT	Vorarlberg	0							0
	CHE	Central Switzerland	6							6
	CHE	Eastern Switzerland	48							48
Central	CHE	Ticino	2						2	4
	CHE	Western Switzerland	0							0
	DEU	Bayern	0							0
	ITA	Lombardia	91							91
	ITA	Trentino-Alto Adige	0						19	19
	CHE	Western Switzerland	30	4	4	3	2	4	3	50
North-West	FRA	Rhône-Alpes	141	1			2			144
North-west	ITA	Piemonte	3	0					2	5
	ITA	Valle d'Aosta	16	3						19
	FRA	Provence-Alpes-Côte d'Azur	16							16
South-West	FRA	Rhône-Alpes	20							20
	ITA	Piemonte	10							10
Massif Central	FRA	Languedoc-Roussillon	0							0
Pre-Pyrenees	FRA	Languedoc-Roussillon	8							8
Spain (without	Pyrenees	;)								
	ESP	Andalucía	28							28
	ESP	Castilla y León	0							0
	ESP	Castilla-La Mancha	3							3
	ESP	Comunidad Valenciana	5							5
	ESP	La Rioja	0							0
	ESP	Región de Murcia	0							0
Bulgaria										
	BGR	Blagoevgrad	0							0
	BGR	Haskovo	0							0
	BGR	Montana	0							0
	BGR	Sliven	0							0
	BGR	Stara Zagora	0							0
Observations to			434	8	4	3	4	4	26	483
Obscivations t	C.a. 100 2		737	0				4	20	703

5.3 Telemetry data

5.3.1 IBM-monitoring area

During the IOD-period GPS-data of 55 Bearded Vultures with satellite tags have been retrieved in the Alpine range, the Massif Central, the Pyrenees, north-eastern Spain and Corsica³ (*Figure 4*). 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. Some of these birds still show their individual marking patterns (bleached feathers) and can therefore be identified by observers. Exceptions are the wild-born birds which have been GPS-tagged but not marked by bleaching their feathers.

GPS-data can serve as an indicator to assess the risk of double counting of individuals. The wide range movement patterns of some birds (*Figure 4*) underline the importance of using only observational data from a narrow period (focal day) for population estimation to avoid double counting.

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³ No IOD was organized on Corsica in 2020.

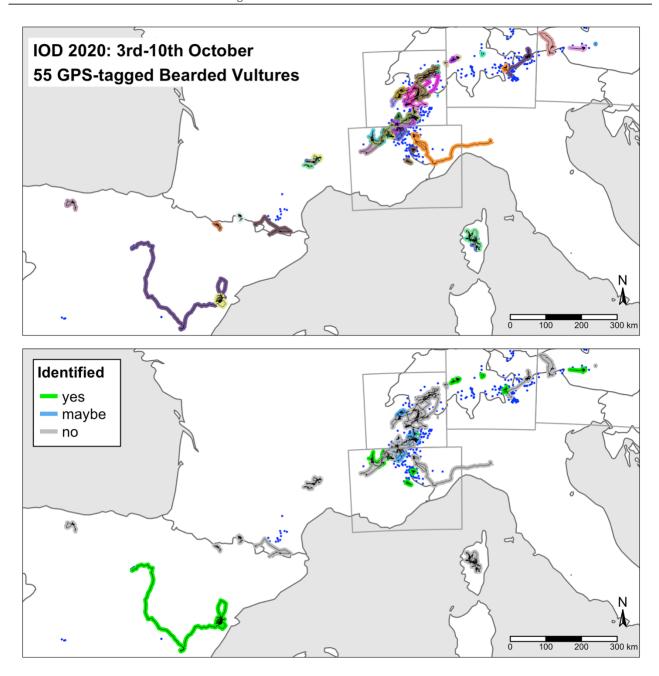


Figure 4. 55 GPS-tagged Bearded Vultures during the IOD periode. Blue dots = occupied observation sites.

5.3.2 Alpine range

During this year's IOD, GPS-data in the Alpine range was available from 35 out of 38 GPS-tagged birds during the IOD period and on the focal day (3.10.2020). No data was available from Mison (W230), Noel-Leya (BG797) and Ewolina (BG838) on the focal day. Out of the 38 GPS-tagged birds 10 individuals could be sighted and identified, while 5 birds were identified with some uncertainty by observers. In 2020 38% of the GPS-tagged birds have been sighted and identified, similar compared to 2019 (35%).

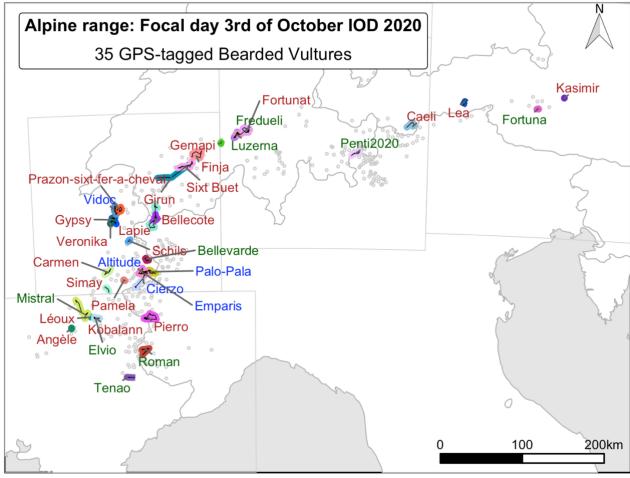


Figure 5. Positions of 35 Bearded Vultures tagged with GPS transmitters that were present in the Alpine range during the focal day (03.10.2020). Observation sites that were occupied during the IOD-period are marked with grey circles. During the IOD-period 10 birds have been identified (green labels), 5 birds have been identified with high probability (blue labels) and 23 birds couldn't be identified (red labels).

Table 4. 55 birds, 28 males and 23 females, with active GPS-tag during the IOD periode 2020. No IOD was organised in Corsica and the Massif Central in 2020.

Animal	BirdID	Sex (m/f)	Age class	Days with pos.	Pos. on focal day	Observed (yes/maybe/no)
Alps	38	19/15	3			10/5/23
Fortuna	843	m		8	7	yes
Noel-Leya	797	m		6	0	yes
Roman	854	m		8	6	yes
Tenao	755	m	عاريات	8	3	yes
Ewolina	838	f	adult	2	0	no
Lea	840	m		8	4	no
Schils	802	m		7	7	no
Veronika	321	f		8	8	no
Cierzo	899	m		8	15	maybe
Gemapi	W196	f		8	9	no
Girun	904	f	subadult	8	5	no
Gypsy	W209	m	Subaduit	8	35	no
Léoux	950	f		8	9	no
Mison	W230	f		3	0	no
Elvio	1026	m		8	13	yes
Fredueli	1001	m		8	68	yes
Mistral	1022	m		8	23	yes
Altitude	W313	f		8	28	maybe
Emparis	W284	f		8	41	maybe
Caeli	998	m		8	18	no
Carmen	1027	f	immat	8	24	no
Finja	1003	f	immature	8	17	no
Kasimir	991	m		4	12	no
Lapie	W251	m		8	35	no
Pamela	1031	f		8	48	no
Pierro	W301	m		8	44	no
Simay	983	m		8	6	no
Sixt Buet	W285	f		8	32	no
Bellevarde	W362	u		8	25	yes
Luzerna	1071	f		8	50	yes
Penti2020	W348	f		8	37	yes
Palo-Pala	1062	m		8	48	maybe
Vidoc	W356	u		8	16	maybe
Angèle	1058	m	juvenile	8	30	no
Bellecote	W361	u		8	57	no
Fortunat	1068	m		8	59	no
Kobalann	1063	f		8	46	no
Prazon-sixt-fer-a-cheval	W346	u		8	75	no
Massif Central	7	3/4				0/0/7
Layrou	761	m	adult	8	7	no
Cévennes	1032	m	immature	8	21	no
Aven	1067	f	juvenile	8	5	no
Dolomie	1070	m	juvenile	8	42	no
Eglazine	1069	f	juvenile	8	35	no
Fario	1079	f	juvenile	8	23	no
Ophrys	1078	f	juvenile	8	27	no
Pyrenees	3	3/0				0/0/3
Roc Genèse	-	m	subadult	8	12	no
Alos	992	m	immature	8	7	no
Bassi	1033	m	immature	8	20	no
Corisca	4	2/2				0/0/4
	959	f	subadult	8	7	
Luna Muntagnolu	890		subadult	8	5	no
_		m		8		no
Cintu Orba	1042 1041	m f	immature	8	214 167	no
			immature	0	107	no
Maestrazgo	3	-		_		2/0/1
Boira	1040	f	immature	8	55	yes
Amic	995	m	immature	8	26	no
Celest	1073	f	juvenile	8	33	yes

5.4 Individual based data

During the IOD 2020 period 27 individuals have been identified with high probability in the Alpine range. 2 of them in the eastern Alps, 13 in the central Alps, 1 in the north-western Alps, 11in the south-western Alps and 20 in Spain. In the Alpine range, another 22 birds were identified with uncertainty and these "potentially" identified birds are marked as "maybe identified" in

Table 5 & Table 6. Such individual based monitoring is only possible due to the international collaboration, information exchange and the coordination of marking patterns within the international Bearded Vulture monitoring network.

Table 5. 49 Bearded Vultures that were identified (22 of them with some uncertainty = maybe identified) in the Alpine range during the IOD 2020 grouped by the region where they have been observed.

Zo	ne	Bird	Observed (yes/maybe)	BirdID	Sex (m/f)	Age (cy)	Tag	Territory	Region
		49	27/22		21/16				
	_	Kruml7	yes	W332	u	1		Gastein/Rauris	
	ten	Alexa	maybe	100	f	33		Gastein/Rauris	Hohe Tauern NP (AUT)
	Eastern	Andreas Hofer	maybe	260	m	25		Gastein/Rauris	Hone radem W (AOT)
		Fortuna	yes	843	m	6	GPS	Kleines Fleisstal	
		Fredueli	yes	1001	m	3	GPS		
		Luzerna	yes	1071	f	1	GPS		Central Switzerland
		Noel-Leya	yes	797	m	7	GPS		
		Diana-Stelvio	yes	W07	f	21		Albula	
		GT0116	yes	-	m	-		Bergün	
		GT0117	yes	-	f	-		Bergün	
		Ortler	yes	439	f	17		Ofenpass	Grison (CHE)
	<u>.e</u>	Livigno	maybe	W08	m	21		Ofenpass	
	Central	Vitus	yes	W344	u	1		Ova Spin	
	ర	Pontresina2020	yes	W345	u	1		Pontresina	
		Penti2020	yes	W349	u	1	GPS	Livigno	
		Cic	maybe	186	m	28		Livigno	
		Moische	maybe	146	f	30		Livigno	
		Stift	yes	393	f	19		Valle del Braulio	Stelvio NP, Trentino & Sondrio (ITA)
		Tell	maybe	283	m	24		Valle del Braulio	
		Felice	yes	375	f	20		Zebru	
_		Heinz-Serraglio	yes	W45	m	14		Zebru	
		Vidoc	maybe	W356	u	1	GPS	Bargy	Haute Savoie (FRA)
e,		Gwaihir	maybe	W363	u	1		Andagne	
Alpine range		Condamine	maybe	586	f	12		Pralognan	
<u> </u>		GT054	maybe	-	m	-		Pralognan	
章		Nina	maybe	W364	u	1		Pralognan	
⋖		Mila	maybe	W358	u	1		Termignon	
	Ë	Bellevarde	yes	W362	u	-	GPS	Val disère	Savoie (FRA)
	North-western	Nonno Bob	maybe	548	m	13			Savoic (FRA)
	š	Palo-Pala	maybe	1062	m	1	GPS		
	뒱	Altitude	maybe	W313	u	2	GPS		
	ž	Cierzo	maybe	899	m	5	GPS		
		Emparis	maybe	W284	f	2	GPS		
		Gelas	maybe	279	f	24			
		Gildo	maybe	299	f	23		Derborence_Vérouet	
		Guillaumes	maybe	411	f	18		Derborence_Vérouet	Wallis und Berner Oberland (CHE)
		Pablo	maybe	359	m	21		Derborence_Vérouet	Wallis und Berner Oberland (CHE)
		Elena	maybe	613	f	11			
		Maurich	yes	W365	u	1		Usselgio	Alpi Marittime (ITA)
		Roman	yes	854	m	6	GPS		7 upi mantemie (1774)
		Basalte	yes	716	m	9		Malaval	
	er	Elvio	yes	1026	m	2	GPS		Haute Dauphiné (FRA)
	est	Mistral	yes	1022	m	2	GPS		
	South-western	Cuneobirding	yes	491	f	15		Chambeyron-Ubayette	
	T T	Stephan	yes	616	m	11		Chambeyron-Ubayette	
	Š	Tensing	yes	W337	u	1		Chambeyron-Ubayette	Mercantour (FRA)
		GT036	yes	-	f	-		Source de l'Ubaye	Mercantour (FITA)
		Sereno	yes	348	m	21		Source de l'Ubaye	
		Tenao	yes	755	m	8	GPS	Val dEntraunes	
4.5+	h ı	: 15	arded Vulture Obse						201.22

Table 6. Bearded Vultures that were identified in Spain (without the Pyrenees) during the IOD 2020.

Zone	Bird	Observed (yes/maybe)	BirdID	Sex (m/f)	Age (cy)	Tag	Territory	Region
	20	20		7/12				
	Boira	yes	1040	f	2	GPS		
	Celest	yes	1073	f	1	GPS		Maestrazgo (ESP)
	Otal	yes	-	u	-			
	Guadalquivir	yes	751	m	8		Castril	
	Blimunda	yes	633	f	11		Cazorla 1	
	Tono	yes	486	m	15		Cazorla 1	
es)	Bigup	yes	856	m	6		Cazorla 2	
ene	Encina	yes	713	f	9		Cazorla 2	
Spain (without Pyrenees)	Estela	yes	746	f	8		Segura 2	
支	Rayo	yes	799	m	7		Segura 2	
둂	Nerpio	yes	762	m	8		Segura 3	
3	Miguel	yes	800	m	7		Segura 4	Andalusia (ESP)
ain	Alejandra	yes	1059	f	1			
Sp	Curro	yes	1057	f	1			
	Heli	yes	955	m	4			
	Huesitos	yes	1036	f	2			
	Samburu	yes	1055	f	1			
	Tramaya	yes	1023	f	2			
	Trashumancia	yes	1025	f	2			
	Vainilla	yes	1029	f	2			

5.5 Spatial distribution of age groups

From 499 sites 483 Bearded Vulture sightings have been recorded during the whole period, 434 during the focal day (*Table 3*).

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.

The following figures (*Figure 6 - Figure 12*) show the presence of Bearded Vultures 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.

5.5.1 Alpine range

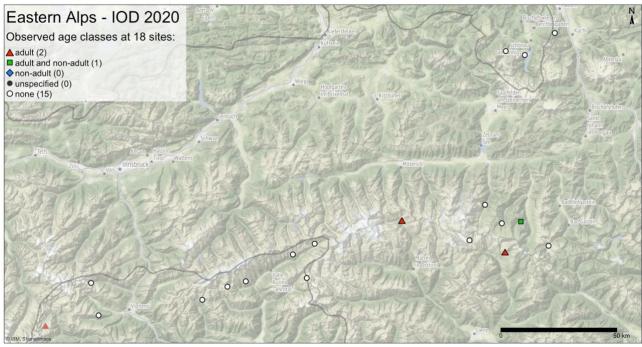


Figure 6. Age class distribution observed at 18 sites in the Eastern Alps during the IOD 2020.

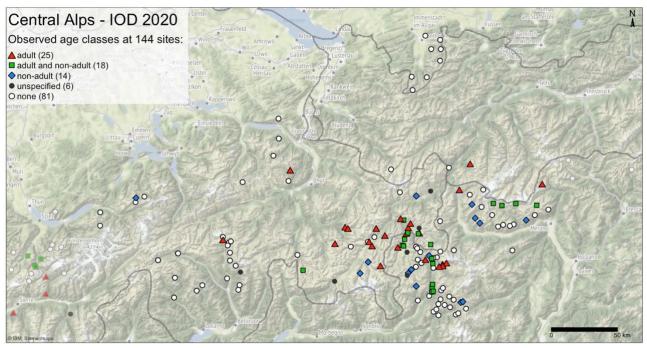


Figure 7. Age class distribution observed at 144 sites in the Central Alps during the IOD 2020.

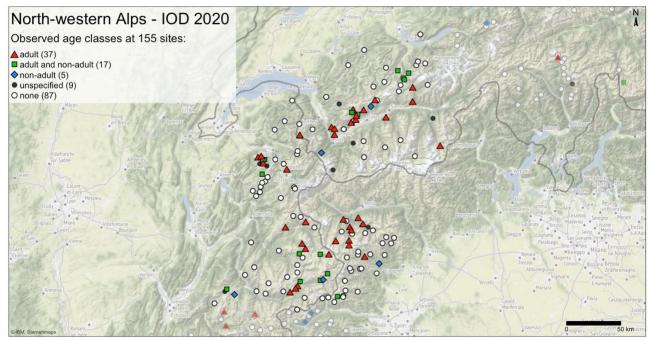


Figure 8. Age class distribution observed at 155 sites in the north-western Alps during the IOD 2020.

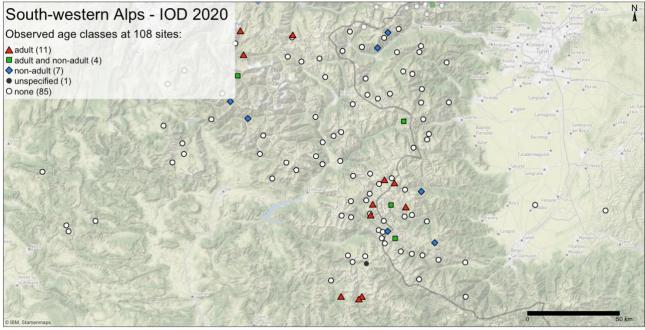


Figure 9. Age class distribution observed at 108 sites in the north-western Alps during the IOD 2020.

5.5.2 Massif Central & French Pre-Pyrenees

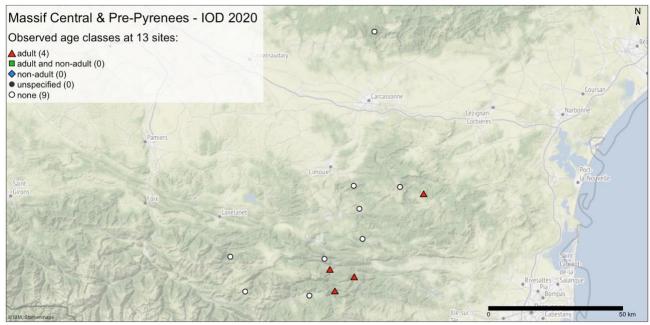


Figure 10. Age class distribution observed at 13 sites in the region between the Massif Central and the french Pyrenees during the IOD 2020.

5.5.3 Spain (without Pyrenees)

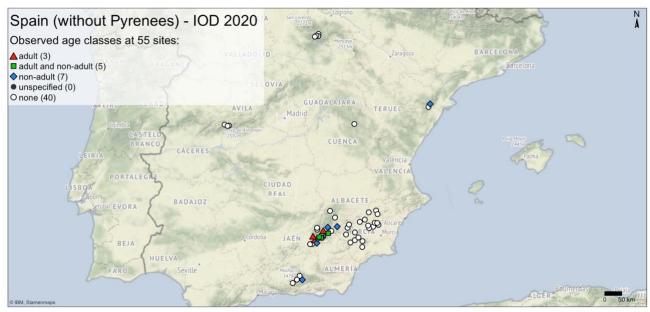


Figure 11. Age class distribution observed at 55 sites in Spain during the IOD 2020.

5.5.4 Bulgaria

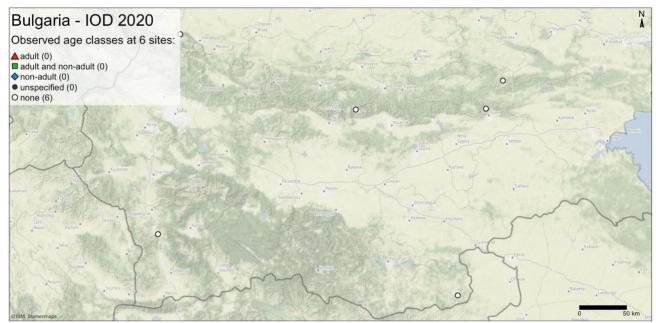


Figure 12. Age class distribution observed at 6 sites in Bulgaria during the IOD 2020.

6 Outlook 2021

Before 2015, an Europe wide alternative date was set, which was abandoned due to difficulties in organising and decision for postponement. However, in weather situations like in 2020, it would have been very helpful to have this second date. Therefore, from 2021 onwards, a focal day, observation period and second date are agreed and set. It will be a joint selection if the first focal day can be respected or if the full IOD has to be postponed.

Period 2nd - 9th of October 2021

Focal day 1: Sat 2nd of October 2021.

Focal day 2: Sat 9th of October 2021 (bad weather alternative)

Even though a period of one week was chosen for public communication, 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 10 am to at least 3 pm.

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Rudi Kaincz Ruedi Ettlin Ruth Klucker Ruud Garama Samy Michel Sandra Sáez Sandy Lanthelme Sara Cioccarelli Sara Ferreras Sarah Guiheux Sébastien Brégeon Sébastien Spinari Sebastien Tachet Serafina Petrozzi Serge Denis Sergio Perron Séverine Magnolon Severino Moranduzzo Silvana Nembrini Silvana Signorell Silvia Alberti Simeon Marin Simon Jaeger Simon Keller Simon Rudoplh Simona Danielli Simona Molino Simone Liechti Simone Luzzato Simone Minessi Simonetta Cutini Sonia Giussani-Gotti Sophia Fenninger Sophie Marti Sophie Roux Steeve Peyron Stefan Sprenger Stefania Capelli Stefania Marazia

Steffen Kast Stéphane Lucas Stéphanie Brettnacher Susanna Rossi Susanne Lock Susi Bäbler Suzanne Houot Sylvain Combe

Stefania Vuillermoz

Stefano Allavena

Stefano Andretta

Stefano Liviello

Stefano Marcolli

Stefano Zuccaro

Svlvain Suzan Sylvie Geneve Sylvie Mosdale Teresa De Chiclana Tessie Marais Théo Gautier Théo Mazet Théotime Revaz Thierry Arsac **Thomas Bachofner** Thomas Buton Thomas Dreher Thomas Gorr **Thomas Jonet** Thomas Wehrli **Thomas Windisch** Tiziana Odelli Tommy Bulle Toni König Toni Wegscheider **U**go Parolini

Ulisse Guichardaz **Urs Wirth** Valentina Babolin Valentina Mangini Valeria Moris Valérie Arzur Valérie Hagry Verena Eichenberger Véronique Rémyot Vicente Sancho Vincent Mugnier-Merlin

Vincenzo Ragaglia Vittorio Saccoletto Walter Palfrader Walter Vallet Werner Rokitzky Werner Wolfsgruber William Hamouchi Xavier Fribourg Xavier Gallice Yann Blanchard Yoan Desmoucelles Yoé Chetboun Yvan Sibourg Yves Jacquemoud Yves Jobert Yves Lazennec Yves Roullaud Yves Zabardi