

# The Common crane (*Grus grus*), wintering in Spain, Portugal and Morocco. Distribution and census of the population (2013/2014)

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## ABSTRACT

In December 2013 and January 2014 a new census of wintering Common crane (*Grus grus*) in Spain was undertaken to provide updated information on the species, given that the previous census was from 2007. In December, with full coverage a total of 223,639 birds were counted. By region, Extremadura was shown to host 121,341 (54.25%) more than half of all of the birds counted, followed by Aragón with 58,766 (26.27%), Castilla La Mancha with 26,905 (12.03%), Andalucía with 9,078 (4.03%), Castilla and León with 7,215 (3.22%) and finally Navarra with 383 (0.16%). In January the coverage was partial, with a focus on the most important areas, resulting in a total of 168,011 birds. Extremadura was again the most important region with 99,451 (59.19%), ahead of Aragón with 53,467 (31.82%), Castilla La Mancha with 8,779 (5.22% incomplete census), Castilla and León with 4,019 (2.39%), Balearic Islands with just 11 birds (0.06%) and Navarra with no cranes whatsoever.

The wintering population of Portugal in December 6.648 birds and 7.080 in January.

Both surveys also extended geographically to the north coast of Morocco: the December count produced 326 birds: Fez – Taza with 166 (59.92%), followed by Tangier with 160 (49.07%). The second count in January resulted in 1,307 cranes, with Tangier holding 632 birds (48.35%), Fez-Taza with 425 (32.51%), Taounate 154 (11.78%), Fez with 84 birds (6.42%), and Oued Massa with 12 (0.91%).

**KEYWORDS:** Wintering, Spain, Portugal, Morocco, *Grus grus*

## Introduction

The first censuses in Spain (Fernández Cruz *et al.*, 1981) and the subsequent counts (Alonso *et al.*, 1981, 1985; Muñoz Pulido *et al.*, 1987; Alonso & Alonso 1996; Sánchez *et al.*, 1998; De la Cruz & Montoya 2004; Lundin, G. 2005; Prieta & Del Moral 2008) demonstrated the importance of the Iberian peninsula as the principal western wintering area for Common crane *Grus grus* in Europe.

The continued growth of the breeding population of this species has been reflected also in a significant and sustained increase in the wintering population in Spain, France (Deschartres *et al.* 2010, 2011, 2012) and Morocco (Onrubia *et al.*, 2009), as well as in Extremadura specifically (Román & Gómez Calzado, 2012/13).

In this study, the results of censuses carried out in December 2013 and January 2014 in Spain as well as in Morocco are collated.

## Methodology

144 localities in Spain were visited by a team of 260 volunteer fieldworkers. In Morocco, five fieldworkers covered six sites. The censuses took place on 20th December 2013 and 24th January 2014 respectively. All of the counts took place at roosts with the exception of those undertaken in the Central Zone of Extremadura and in Morocco, where they took place in foraging areas.

## Population and results in Spain

The earliest figures obtained by Bernis (1960, 1966) gave an estimate of about 15,000 wintering cranes in Spain. In the first general census undertaken in 1979/80, *Proyecto Grus*, 14,721 birds were counted (Fernández Cruz 1981), although about 17,000 were estimated (Araujo, 1987, Fernández Cruz *et al.*, 1987). In January 1985 Gallocanta Lake was surveyed, with a count of 31,945 birds (Alonso *et al.* 1986). In 1987 – 88 a new census (Muñoz Pulido *et al.*, 1988) gave a result of 39,579 wintering cranes in Spain, estimating a total population of 50,000 (Alonso & Alonso 1990). In subsequent years estimates were based on the January and February counts at Gallocanta with 65,000 birds (Alonso & Alonso 1996), and with the counts from Extremadura: 80,000 (Sánchez *et al.*, 1998). In 2004 a new census obtained a figure of 93,241 birds (De la Cruz & Montoya 2004). In 2007 SEO/BirdLife organised what was up to then the most complete census, yielding 151,423 birds (Prieta & Del Moral 2008).

In the present study, of 176 sites visited in the first round, 107 resulted positive (60.79%) in 26 provinces of eight Autonomous Communities. In December **223,639** birds were counted, a 32.30% increase over the 2007 results (Prieta & Del Moral 2008). By Autonomous Communities, Extremadura held 54.25% with 121,341 birds counted, followed by Aragón with 58,766 (26.27%), Castilla la Mancha with 26,905 (12.03%), Andalucía with 9,078 (4.03%), Castilla and León 7,215 (3.22%) and Navarra with 383 cranes (0.16%).

The partial census of January yielded **168,011** birds. Extremadura had 99,451 cranes (59.19%), followed by Aragón with 53,467 (31.82%), Castilla la Mancha 8,779 (5.22%), Castilla and León 4,019 (2.39%), Andalucía 2,284 (1.35%) – only in Doñana and la Janda – and the Balearic Islands with 11 birds (0.06%). No cranes were present in Navarra. 80.52% of wintering cranes in December in Spain were in Extremadura and Aragón, and these two regions hosted in January up to 91.01% of counted cranes. The most important area was the Central Zone of Extremadura with 83,132 birds (62,007 in 2012) in December and 63,465 in January (55,614 in 2013). Following in importance is Gallocanta Lake lying between Zaragoza and Teruel with 48,663 birds in December and 42,324 cranes in January (25.19% of the total). By provinces in December, Cáceres with 21,913 birds (18,913 in January) is the most important, followed by To-



Fig. 1: Localities of wintering *Grus grus* in Spain 2013/14

ledo with 17,104, Badajoz 16,174 (17,073 in January), Huesca 5,343, Salamanca 4,113, Sevilla 3,674, Cuenca 3,654, Ciudad Real 2,871, Málaga 1,915, Cádiz 1,823, Zamora 1,357, Córdoba 1,277, Valladolid 968, Ávila 672, Huelva 389, Navarra 383 and Palencia 87.

	December 2013	January 2014
Andalucía	9028	2284
Aragón	58766	53467
Cantabria	0	0
Castilla and León	7215	4019
Castilla la Mancha	26905	8779
Extremadura	121341	99451
Balearic Islands	0	11
Navarra	383	0
<b>SPAIN</b>	<b>223639</b>	<b>168011</b>

Fig. 2: Results of census of *Grus grus* in Spain by Autonomous Community, 2013/14

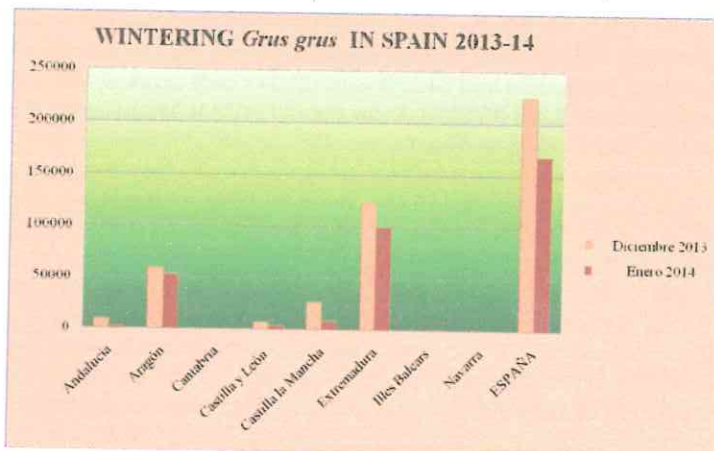


Fig. 3: Comparing census results for *Grus grus* in Spain between December 2013 and January 2014.

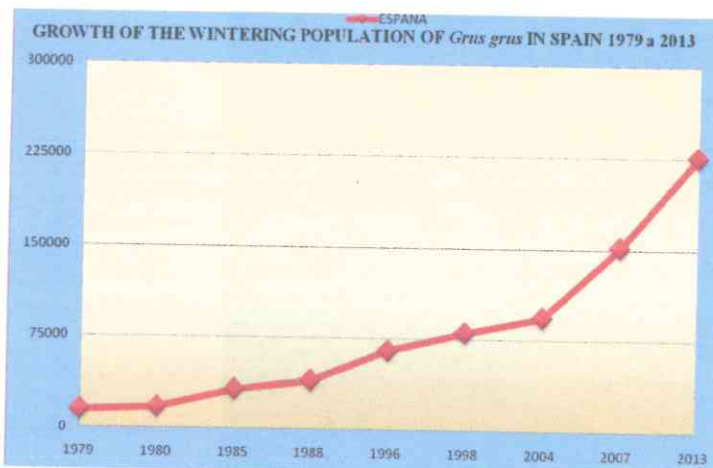


Fig. 4: Growth of the wintering population of *Grus Grus* in Spain (1979/2013)

## Distribution Of The Specie By Autonomous Communities

### ANDALUCÍA

This is the fourth most important region in Spain and the only one which shows a negative trend in the wintering population. There are probably between 3,500 and 4,000 birds present. The most important province is Sevilla (Doñana National Park) with 3,974 birds present in December and 1,012 in January. The following is Cádiz with 1,923 (1,173 in Janda) in December and 1,052 in January, Málaga (Fuente de Piedra) with 1,915 birds, Córdoba with 1,277 birds and Huelva with 389 birds in December and 220 in January.

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
La Janda	Cádiz	Tarifa y Vejér de la Frontera	1173	1052
Trebujete	Cádiz	Jerez de la Frontera	650	sd
Laguna de Fuente de Piedra	Málaga	Fuente de Piedra	1915	sd
Rio Odiel	Huelva	Gibraleón	2	192
Rio Tinto	Huelva	San Juan del Puerto	387	28
Rabizón del Veladero <sup>hu</sup>	Sevilla	Aznalcázar		366
Punta del Caño-Lucio Membrillo	Huelva	Almonte		445
Caracoles, E caño Travieso	Sevilla	Aznalcázar	2280	201
R.B.Guadimar (S de la FAO)	Sevilla	Aznalcázar	474	
Caño Travieso, Entremuros	Sevilla	Aznalcázar	570	
Caracoles, zona W	Sevilla	Aznalcázar	350	
Embalse de la Colada	Córdoba	El Viso	260	sd
Embalse de Sierra Boyera	Córdoba	Peñarroya/Pueblonuevo	900	sd
Fuente la Zarza	Córdoba	Hinojosa del Duque	117	sd
Cabo de Gata	Almería	Níjar	0	
<b>ANDALUCIA</b>			<b>9078</b>	<b>2284</b>

### ARAGÓN

Aragón is the second most important region for the species in Spain, with the Gallocanta Lake the most important refuge. This locality has been the reference point for calculating the Iberian population of cranes for many years (Alonso & Alonso 1990, 96), followed by Huesca with 5,343 birds in December and 2,902 in January, Zaragoza hosted 4,768 cranes in December and 5,714 in January and Teruel with two birds in December and 2,527 in January.

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
Gallocanta	Zaragoza	Gallocanta	48663	42324
Embalse de la Loteta	Zaragoza	Pedrola	0	---
Plano de de Buena Vista	Zaragoza	Ejea de los Caballeros	2510	3233
Valareña	Zaragoza	Valareña	1100	625
Turruquiel	Zaragoza	Ejea de los Caballeros	672	368
Valdecenicera	Zaragoza	Quinto de Ebro	354	552
Embalse de Mequinenza	Zaragoza	Chiprana	84	0

Embalse de Malvecino	Zaragoza	Pinsoro	35	0
Caserío de Arana	Zaragoza	Ejea de los Caballeros	3	7
Sopeña	Zaragoza	Ejea de los Caballeros	0	929
Salada de Chiprana	Zaragoza	Chiprana	0	0
Laguna de la Zaida	Zaragoza	Used	0	0
Embalse de la Tranquera	Zaragoza	Nuévalos	0	0
Laguna de Guialguerrero	Zaragoza	Cubel	0	0
Salada de Bujaraloz	Zaragoza	Sastago	0	0
El Planerón	Zaragoza	Belchite	---	0
Selgua	Huesca	Selgua y Monzón	500	560
Embalse de la Sotonera	Huesca	Montmesa	2550	1071
Clamor Vieja	Huesca	Castelflorite	2250	1150
Lalueza	Huesca	Lalueza	3	---
Alberca de Loreto	Huesca	Huesca	0	---
Vicién	Huesca	Vicién	0	---
Embalse de Valdelabra	Huesca	Huesca	0	---
El Espartal	Huesca	Ontiñena	0	72
Ventorrillo	Huesca	Ontiñena	0	49
Hondo de Unilla	Huesca	Candasnos	40	0
El Balsón (Ojos Altos)	Teruel	Caminreal	2	23
Embalse del Arquillo	Teruel	San Blas	0	0
Laguna de Cañizar	Teruel	Villarquemado y Cella	0	2500
Saladas de Alcañiz	Teruel	Alcañiz	0	4
Embalse de Lechago	Teruel	Lechago	0	0
Embalse de Lechago	Teruel	Navarrete del Río	0	0
Laguna el Raso	Teruel	Odón	--	0
Río Pancrudo	Teruel	Navarrete del Río	0	0
<b>ARAGÓN</b>			<b>58766</b>	<b>53467</b>

### **CASTILLA AND LEÓN**

This is the fifth most important region. 7,215 cranes were counted in December and 4,019 in January. In Salamanca 4,113 cranes were counted in December and 3,810 in January, followed by Zamora (Villafáfila) with 1,357 cranes in December and none in January, Valladolid with 986 birds in December and 200 birds in January, Ávila (El Oso) with 672 birds in December and nine in January and Palencia with 87 individuals (La Nava) in December. In León province 32 sites were checked but no cranes were present.

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
Provincia de León	León	León	0	
Laguna de la Nava	Palencia	Fuentes de Nava, Maza	87	0

Laguna de Villafáfila	Zamora	Otero de Saregos, Villafáfila	1357	0
Laguna de la Zarza	Valladolid	La Zarza	300	180
Laguna de los Mullidares	Valladolid	Lomoviejo	380	20
Laguna La Colada	Valladolid	San Vicente del Palacio	176	0
Pozuelo de la Orden	Valladolid	Pozuelo de la Orden	130	0
Laguna de El Oso	Ávila	El Oso	672	9
Emb. de la Maya (St. Teresa)	Salamanca	Montejo, Salvatierra, Aldeavieja, Guijuelo	1200	2690
Azud de Riobos	Salamanca	Campo de Peñaranda, Villar Gallimazo	2813	1000
Puebla de Yeltes	Salamanca	Puebla de Yeltes	100	120
<b>CASTILLA Y LEÓN</b>			<b>7215</b>	<b>4019</b>

### CASTILLA LA MANCHA

This is the third most important region for cranes. 26,905 birds were counted in December and 8,779 in January. By province, 17,104 cranes were present in December and 2,997 (partial census) in January in Toledo, followed by Ciudad Real with 6,147 cranes in December and no census in January. Cuenca hosted 3,654 birds in December and 980 in January (incomplete census). In Albacete and Guadalajara there were no birds.

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
Laguna de Beleña	Guadalajara	Beleña	0	sd
Laguna Honda, Mendea, Llana	Guadalajara	Campillo de Dueñas		0
laguna de los Majanos	Guadalajara	Setiles		0
La laguna	Guadalajara	Tordesilos		0
Pétrola-Corral Rubio	Albacete	Corral Rubio	0	sd
Laguna de Aljibarro	Albacete	Albacete	0	sd
Embalse de Alarcón	Cuenca	Honrubia		sd
Embalse de Alarcón	Cuenca	Villaverde y Pasaconsol		228
Embalse de Alarcón	Cuenca	Valverde de Júcar	1110	652
Laguna de Manjavacas	Cuenca	Mota del Cuervo	2544	sd
Embalse Castrejón	Toledo	La Puebla de Montalbán	2253	sd
Embalse de Rosarito	Toledo	Oropesa	3090	sd
Embalse de Navalcán	Toledo	Navalcán	4895	sd
Laguna del Taray	Toledo	Quero	0	0
Laguna de Peña Hueca	Toledo	Villacañas	2480	102
El Verdugal	Toledo	Oropesa	2223	1544
Laguna del Grullo	Toledo	La Calzada de Oropesa	2163	1351
P.N. Cabañeros (2 DM)	Ciudad Real	Cabañeros	3276	sd
Tablas de Daimiel	Ciudad Real	Daimiel, Villarrubia de los Ojos	2480	sd
Valle de Alcudia	Ciudad Real	Almodóvar del Campo	391	sd
<b>CASTILLA LA MANCHA</b>			<b>26905</b>	<b>8779</b>

**EXTREMADURA**

This is the most important region for the species in the Iberian Peninsula. During this census, 121,341 birds were counted in December (54.25% of the Spanish total) and 99,451 in January (59.19%) in three sectors: Tagus Sector (Cáceres), Guadiana Sector (Badajoz) and the Central Zone Sector crossing both provinces. The latter is the most important sector with 83,132 birds present in December and 63,465 in January (37.17% of the Spanish population in December and 37.77% in January). In December 2012/2013 there were 63,207 cranes and in January 56,376. The Tajo Sector follows with 22,039 birds in December and 18,913 in January and then the Guadiana Sector with 16,174 cranes in December and 17,073 in January.

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
Embalse de El Borbollón	Cáceres	Santibáñez el Bajo	5375	6352
Embalse de Gabriel y Galán	Cáceres	Zarza de Granadilla	2274	930
Pinar de Talayuela (Río Tíetar)	Cáceres	Tejeda de Tíetar	463	0
Río Tíetar-Monfragüe	Cáceres	Malpartida de Plasencia	2495	139
Laguna del Palancoso	Cáceres	Navalmoral de la Mata	1219	4497
Cañada del Venero	Cáceres	Talayuela	128	372
Embalse de Valdecañas	Cáceres	Peraleda de la Mata, El Gordo	4858	2040
Ejido Grande	Cáceres	Navalmoral de la Mata	0	sd
Charca la Clavería/Mortera	Cáceres	Membrío	567	sd
Belbís y Navarra	Cáceres	Brozas	sd	sd
Dehesa DE Herrerueta	Cáceres	Herrerueta	250	sd
Galaperal	Cáceres	Brozas	sd	sd
Galaperal	Cáceres	Brozas	sd	sd
Hornos y Rehoyos	Cáceres	Brozas	sd	sd
Ponce	Cáceres	Brozas	sd	sd
Sector Brozas	Cáceres	Brozas		1250
Embalse de Talaván	Cáceres	Talaván	237	138
Embalse de Cuartón/Tejarejos	Cáceres	Monroy	703	918
Las Seguras	Cáceres	Cáceres	315	sd
Embalse de Valdesalor	Cáceres	Cáceres	897	472
Embalse de Aldea del Cano	Cáceres	Aldea del Cano	1071	886
Charca del Campazo	Cáceres	Trujillo	217	300
Río Tozo/Labradillo	Cáceres	Trujillo	420	639
Embalse Arroyo Casillas	Cáceres	Trujillo	0	
Embalse del Águila	Cáceres	Torrecillas de la Tiesa	sd	sd
Arroyomolinos de Montanchez	Cáceres	Arroyomolinos de Mchez.	113	0
Sectores Yelbes/Medellín	Badajoz	Medellín/Sta. Amalia/Guareña	3679	7075
Sector Toconal	Badajoz	Don Benito	600	765
Sector Valdehornillos	Bad/CC	Sta. Amalia/D.Benito/ Miajadas	9081	11868

Sector Villar de Rena	Bad/CC	Villar Rena/Campo Lugar	8268	1157
Sector Logrosán	Cáceres	Logrosán	16537	2173
Sector Guareña	Badajoz	Guareña/Sta. Amalia	454	3366
Sector Palazuelo	Cáceres	Madrigalejo	4036	1073
Sector Los Guadalperales	Badajoz	Don Benito	12772	6304
Zona Centro E (C.D. Pedro/Zurbarán)	Badajoz	C.D. Pedro, N. Pela, Tlarrubias	27705	29684
Embalse de Valdecaballeros	Badajoz	Valdecaballeros	0	sd
Almansa	Badajoz	Valdecaballeros	487	1287
Recula emb Orellana	Badajoz	Talarrubias	67	487
Las Bodeguillas	Badajoz	Casas de Don Pedro	3	160
Charca Valverde	Badajoz	Villanueva de la Serena	9	0
Cortijo del Zangallón	Badajoz	Villar del Rey, Alburquerque	611	711
La Cuba	Badajoz	La Roca de la Sierra	209	sd
Embalse de los Canchales	Badajoz	Mérida	4630	2537
Embalse de Cornalvo	Badajoz	Mérida	16	88
Lagunas de la Albuera	Badajoz	Torre de Miguel Sesmero	1843	2071
Embalse de Villalba	Badajoz	Villalba de los Barros	3	49
Embalse de Alange	Badajoz	Alange	400	139
Las Merinillas	Badajoz	Badajoz, Valverde de Leganés	844	883
Embalse de Cuncos	Badajoz	Villanueva del Fresno	1173	892
Embalse de Alqueva	Badajoz	Cheles, Vva. Fresno, Olivenza	sd	sd
La Guarda	Badajoz	La Guarda	0	94
Las Torralbas	Badajoz	Magacela	44	0
Badija Norte	Badajoz	Campanario	39	157
Badija Este	Badajoz	Quintana de la Serena	15	605
Puerto Mejoral	Badajoz	Castuera	52	730
Almorchón	Badajoz	Cabeza del Buey	323	1278
Zarza Capilla	Badajoz	Zarza Capilla	152	204
Capilla	Badajoz	Capilla	417	319
Monterrubio	Badajoz	Monterrubio de la Serena	143	347
Dehesa de Fernán Núñez	Badajoz	Siruela	sd	788
Embalse del Rosal	Badajoz	Peraleda del Zaucejo	2350	1313
Casas de Reina	Badajoz	Casas de Reina	145	346
Embalse de Arroyo Conejo	Badajoz	Berlanga, Higuera de Llerena	992	1205
Dh de San Pedro	Badajoz	Casas de Reina	145	346
La Osa	Badajoz	Retamal de Llerena	305	152
Matanegra	Badajoz	Usagre, Bienvenida	108	0



Calzadilla de los Barros	Badajoz	Calzadilla de los Barros	300	0
Embalse de los Molinos	Badajoz	Llera	0	0
Embalse del Moral	Badajoz	Los Santos de Maimona	494	231
<b>EXTREMADURA</b>			<b>121341</b>	<b>99451</b>

### BALEARIC ISLANDS

The Balearic Islands host a small number of cranes and not every winter. In 2007 three birds were found in Maó on the island of Menorca and in the present census, 11 birds were seen at La Albufera on Mallorca during January.

### NAVARRA

Navarra is a region where cranes are starting to be seen at the start of winter, perhaps more correctly acting as a temporary but regular stopover, where cranes are finding food and then moving on to the south-west. 383 birds were counted in December.

## POPULATION AND RESULTS IN PORTUGAL

The Portuguese population has been stable over the last few years, not showing the increase observed in Spain, although it has doubled since the first census in 1991. The result obtained in the present census was 6,648 birds in December and 7,080 counted in January. The main wintering areas are in Campo Maior, Mourão, Évora and Castro Verde, lying in the Guadiana basin, sharing roosts and feeding areas with nuclei in Extremadura. Earlier counts had 3,142 birds in 1991 (Almeida, 1996), 2,873 cranes in 2000 (ICN, 2006) and about 6,000 in 2007 (da Silva).

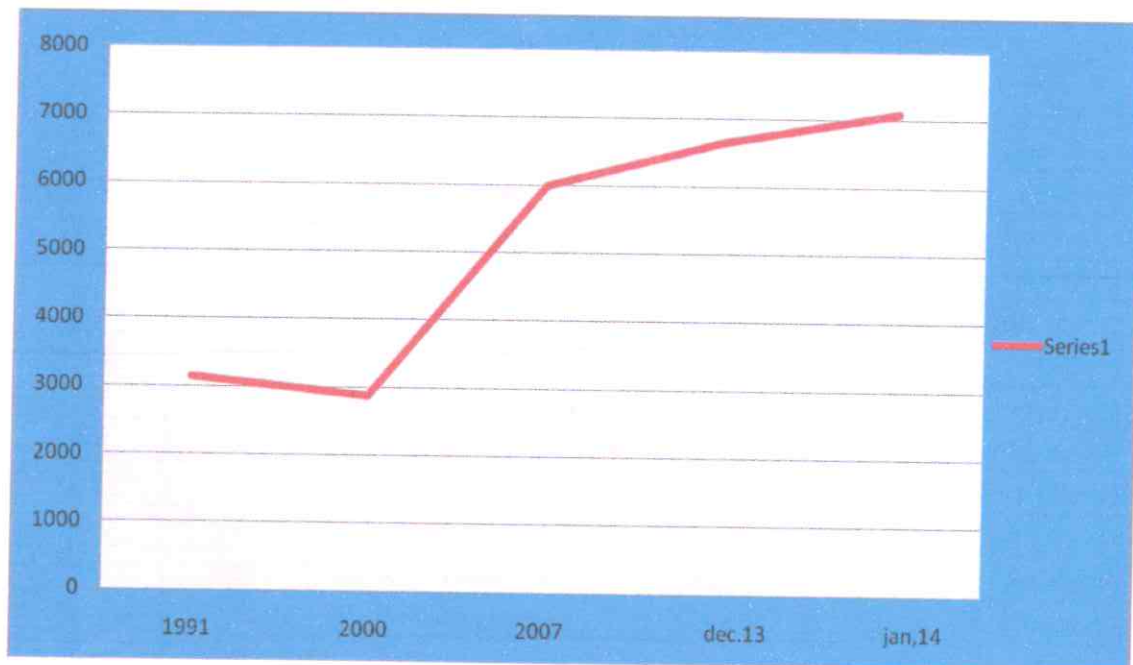


Fig 5: Growth of the wintering population of *Grus grus* in Portugal 1991/2014



Fig 6: Wintering sites of *Grus grus* in Portugal 2013/14

## POPULATION AND RESULTS IN MOROCCO

The wintering population of cranes in Morocco appears to have fluctuated, with numbers reduced in the last century (Prieta & Del Moral 2008), not exceeding 600 in the censuses between 1970 to 1987 (Thevenot & Salvi 1987, Thevenot *et al.*, 2003), although in the final census carried out the figure was greater with between 983 to 1078 birds counted (Onrubia *et al.* 2009). In the present study, Morocco was surveyed in both winter months, with an increase in wintering birds noted in January. Cranes concentrated mainly in the north-west of the country in the provinces of Tangier, Taounate, Fez and Taza. There was a small nucleus at Oued Massa, where birds were not found in December, but were present in January. Overall in Morocco, in December, a total of 326 birds were seen and in January 1,307. With respect to the 2007 census, the population had increased by 229 cranes (14.65%).



Fig. 7: Wintering sites of *Grus grus* in Morocco 2013/14

LOCATIONS	PROVINCE	COUNCIL	20/12/2013	24/01/2014
Tahadart-oued Mharhar	Tánger	Bougdour-Tánger	0	237
Oued Hachef	Tánger	Had Rharbia	160	343
Barrage Makhazine	Tánger	Ksar El Kebir	0	52
Barrage Wahda	Taounate	Fes el Bali/Oudagh	0	154
Barrage Idriss I <sup>o</sup>	Fez-Taza	Ain Lagdeh	166	425
Barrage Sidi Chahed	Fez	Douar Nzala-Mikkés	0	84
Oued Massa			0	12
<b>MARRUECOS</b>			<b>326</b>	<b>1307</b>

## CONCLUSIONS

The wintering population of cranes in south-western Europe/Morocco during the month of December was 320.696 birds: 90.085 in France, 223.639 in Spain, 6.646 in Portugal and 326 in Morocco. In January, with incomplete censuses in Spain, there were 243.546 cranes counted: 67.148 in France, 168.011 in Spain, 7.080 in Portugal and 1.307 in Morocco. Based on these results the total wintering population in Western Europe should be in excess of 330.000 cranes.

## CENSUS TEAMS

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