

Population estimate of *Haematopus ostralegus longipes* based on non-breeding numbers in January

Marc van Roomen^{1,2}, Tom Langendoen³, Hamid Amini⁴, Jimmy de Fouw^{2,5},
Taej Mundkur³, Andrew Thorpe⁶ & Bruno J. Ens¹

¹Sovon Dutch Centre for Field Ornithology, PO Box 6521, 6503 GA, Nijmegen, The Netherlands.

²Working Group International Waterbird and Wetland Research (WIWO), PO Box 6521, 6503 GA Nijmegen, The Netherlands

³Wetlands International, PO Box 471, 6701 AL Wageningen, The Netherlands

⁴Ornithology Unit, Wildlife Bureau, Department of Environment, Pardisan Eco-park, Hakim Highway, Tehran, Iran

⁵Department of Marine Ecology, Royal Netherlands Institute for Sea Research (NIOZ), PO Box 59,
1790 AB Den Burg (Texel), The Netherlands.

⁶Natural Research Projects (Ltd), Brathens Business Park, Hill of Banchory, Banchory, Aberdeenshire AB31 4BY, UK

van Roomen, M., Langendoen, T., Amini, H., de Fouw, J., Mundkur, T., Thorpe, A. & Ens, B.J. 2014. Population estimate of *Haematopus ostralegus longipes* based on non-breeding numbers in January. *International Wader Studies* 20: 41–46.

Based on the results of the International Waterbird Census, additional references and expert judgment, the population size of the subspecies *Haematopus ostralegus longipes* is estimated to be not more than 27,000–40,000 birds in January in the years 2002–2012. This compares well with an independent estimate based on breeding numbers resulting in 10,500–15,000 breeding pairs and a resulting non-breeding population of 26,000–37,000 birds. This estimate for *longipes* includes *buturlini* (recognized as a separate subspecies by some) in accordance with the division in subspecies for Eurasian Oystercatcher as used in the *Waterbird Population Estimates* publications. This new population estimate is considerable smaller than the previous ones, which were 100,000–200,000 birds (Wetlands International 2002, 2006, 2012). The difference is most probably caused by overestimation and partly wrong data used for the previous estimates. Based on scant information about numbers in the 1970s, 80s and 90s in the region (Iran, Oman, Pakistan and India), no major change in numbers of Oystercatchers seems apparent in that time period.

INTRODUCTION

The various editions of *Waterbird Population Estimates* (WPE) and the *Wader Atlas for Africa and Western Eurasia* refer to *longipes* [Photo A] as a distinct subspecies of *Haematopus ostralegus* (Wetlands International 2002, 2006, 2012, Delany *et al.* 2009). The population size of this subspecies is partly estimated on the basis of breeding numbers in the review of Saychev & Mischenko (2014). However, in their account they exclude the range of what they consider as another subspecies *Haematopus ostralegus buturlini* which was described by G.P. Dementiev in 1941. Fig. 1 shows the presumed breeding range of *longipes* and *buturlini*. Subspecies *buturlini* is recognized among many Russian ornithologists, but not outside Russia. As a result the population size estimate by Saychev & Mischenko (2014) covers only a part of the breeding range of the subspecies *longipes* as delineated in the *Waterbird Population Estimates* and *Wader Atlas* (Wetlands International 2012, Delany *et al.* 2009). A new reliable estimate of the ‘total’ population size of *longipes* would be valuable because it also seems that the old estimate, also based on breeding numbers, as published in Wetlands International 2012, was partly wrong as pointed out in the contribution by Sarychev & Mischenko (2014).

Because of the uncertainties in the estimates based on breeding numbers it seems useful to estimate the population

size of *longipes* (including *buturlini*) on the basis of January numbers during the non-breeding season. Oystercatchers are concentrated in coastal wetlands outside the breeding season and there they can be counted relatively easily [Photo B].



Photo A. Adult Eurasian Oystercatcher belonging to the subspecies *longipes* on the intertidal flats of Barr al Hikman, Oman, 14 March 2012 (photo: Jan van de Kam).



Photo B. Adult Eurasian Oystercatcher belonging to the subspecies *longipes* on the intertidal flats of Barr al Hikman, Oman, 14 March 2012 (photo: Jan van de Kam).

METHODS

International Waterbird Census

Internationally, wintering waterbirds are monitored during the International Waterbird Census (IWC). For the IWC, counts are organized mainly in January when migrant waterbirds have reached their winter quarters and distribution is relatively stable. These January counts are organized under the responsibility of national coordinators, often as part of a national monitoring programme. For the IWC, the aim is to count as many and the same wetlands as possible on a yearly basis. However in the region we are discussing, depending on resources available, different sites are often covered in different years and also sometimes years with high activity are alternated with periods of lower counting effort. Data from the IWC are first collected by the national coordinators and after quality control sent to Wetlands International for storage in the IWC database and collation into international summaries. For all countries considered to belong in the winter range (term used for January further on in this paper) of *longipes* (see below) data were extracted from the IWC database from January 1990–2012. From this dataset, per country, the most recent ten years with counts were selected. For this selection of years, average numbers per site were calculated and used for the distribution map. Initially also the sum of the site averages was used as a first indication of country totals. Based on these calculated country totals, additional references, and expert judgement, a total estimate per country was made.

Non-breeding range in January

Before we can use the data from the IWC database we need to decide which countries and sites belong to the January range of *longipes*. In practice we used the flyway boundaries as defined in the Wader Atlas (Delany *et al.* 2009, see also Fig. 1), however these are for the year round distribution, therefore also include the breeding and migration periods and not only winter. Bulgaria, Rumania, Ukraine, Russia and Kazakhstan can be excluded from our dataset because these countries are visited by Oystercatchers only during breeding and on migration. It could be argued that Greece and Tunisia may also be part of the wintering range of *longipes* considering that *longipes* migrates through Bulgaria, Rumania and Ukraine. Several other wader species that migrate through these countries derive from wintering sites in Tunisia and Greece (Kube *et al.* 1998). Also, some birds caught in Tunisia and Greece had measurements larger than the nominate Oystercatchers from northwest Europe (Spiekman *et al.* 1993, Meininger 1990). However in the review of van der Pol *et al.* (2014), Tunisia and Greece are considered part of the wintering range of *ostralegus* and this is retained in our estimation of *longipes* numbers.

In the east, similar discussions exist about the origins of small numbers of non-breeding birds reported along the Bay of Bengal in eastern India, Bangladesh, Myanmar and west coast of Malaysia (Melville *et al.* 2014). There is an old breeding record of Oystercatcher in Bangladesh in 1922 which was attributed to *osculans* (Ali & Ripley 1983), but no measurements were collected to authenticate this. It is

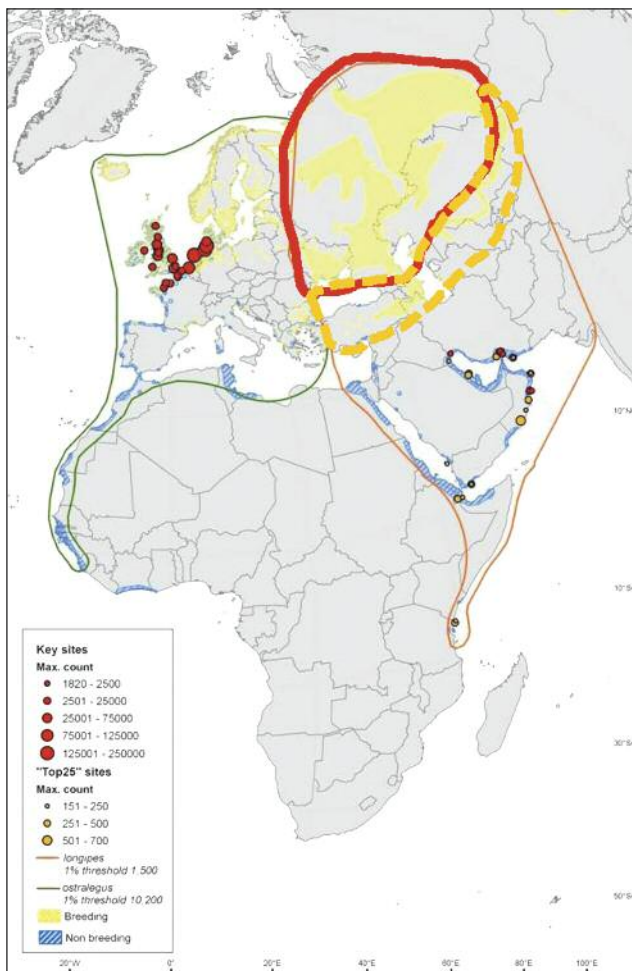


Fig. 1. Flyway boundaries for *ostralegus* and *longipes* oystercatchers (from Delaney *et al.* 2009) and the presumed breeding distribution of *buturlini* within the range of *longipes*.

also possible that the Bay of Bengal birds form the eastern-most extension of *longipes* (a distribution pattern that is similar to that of the Crab Plover). In this current review we included the numbers in eastern India in our estimation for *longipes*; farther east the numbers are small and make no difference to our estimates.

RESULTS & DISCUSSION

Distribution

The most important wintering grounds of *longipes* are around the Persian Gulf and the Gulf of Oman with most concentrations in Iran, Oman and Pakistan, and then also in the United Arab Emirates, Qatar, Bahrain and the north-east coast of Saudi Arabia (Fig. 2). Smaller concentrations are found along the coast of India and around the Red Sea and the Gulf of Aden, with concentrations in Yemen, Djibouti, Eritrea and the south-west coast of Saudi Arabia. Farther afield, this population is also found along the coast of Tanzania with smaller numbers in Kenya and Sri Lanka. Although counts are lacking, the species is also found in small numbers along the Horn of Africa (Ash & Miskell 1998). Around the coasts of the eastern Mediterranean Sea few concentrations are found, with only Egypt and Turkey of importance. The lack of concentrations in Israel, Cyprus, Lebanon and Syria is due to a true absence of wintering

Oystercatchers and not the result of the lack of counts.

Population estimate

The breeding population of *longipes* minus *buturlini* is estimated to be 7,000–10,000 breeding pairs (Sarychev & Mischenko 2014). If *buturlini* is considered as also belonging to the subspecies *longipes*, we do not have breeding numbers available for Turkey, Azerbaijan, Iran, Turkmenistan and the southern part of Kazakhstan according to the map in the Wader Atlas (Delany *et al.* 2009, Fig. 1). For Turkey, the number of breeding pairs was estimated at 250–1000 for the years 1980–1997 (Thorup 2006). On the basis of the size of the ‘remaining’ breeding range it would seem unlikely that the breeding population of *buturlini* exceeded 3,500–5,000 pairs, making a total of 10,500–15,000 breeding pairs for *longipes* including *buturlini*. On the basis of a breeding population of 10,500–15,000 breeding pairs, we would expect a non-breeding population, which will also include juveniles, immatures and adult non-breeders, of about 26,000–37,000 individuals. This is much lower than the estimate of 100,000–200,000 in WPE3, WPE4 & WPE5 (Wetlands International 2002, 2006, 2012). This is partly due to the fact that these estimates included a mistaken estimate of 30,000–50,000 breeding pairs for the Yamal region, whereas 1000 breeding pairs is a much more likely estimate for this area (Sarychev & Mischenko 2014).

Summing the site averages of the most recent 10 years in the period 1990–2012 from the IWC database gives a total of 16,000 oystercatchers in their winter range (Table 1, page 45). However this is an underestimate of the real number present because in most countries not all sites are counted or sites are not counted completely. While 127 oystercatchers were counted in Egypt, a total of 1000 was estimated to be present (Meininger & Atta 1994). While the sum of the site averages from 2002–2012 was more than 6,000 in Iran, in January 2009 the most complete count of the Persian Gulf revealed that 8,700 oystercatchers were present with an estimated total of 10,000 (Amini & van Roomen 2009). In Oman, the average number was almost 3,000 birds, but a simultaneous count of Barr al Hikman, Masirah Island and the remaining non-estuarine coastline resulted in a total of 5,500 oystercatchers (Green & Harrison 2008, Klaassen & de Fouw 2008). Also for Pakistan and India it seems likely that total numbers are larger than



Photo C. Two Eurasian Oystercatchers (subspecies *longipes*) in winter plumage feeding on the intertidal flats of Barr al Hikman, Oman, during the falling tide on 25 March 2012 (photo: Jan van de Kam).

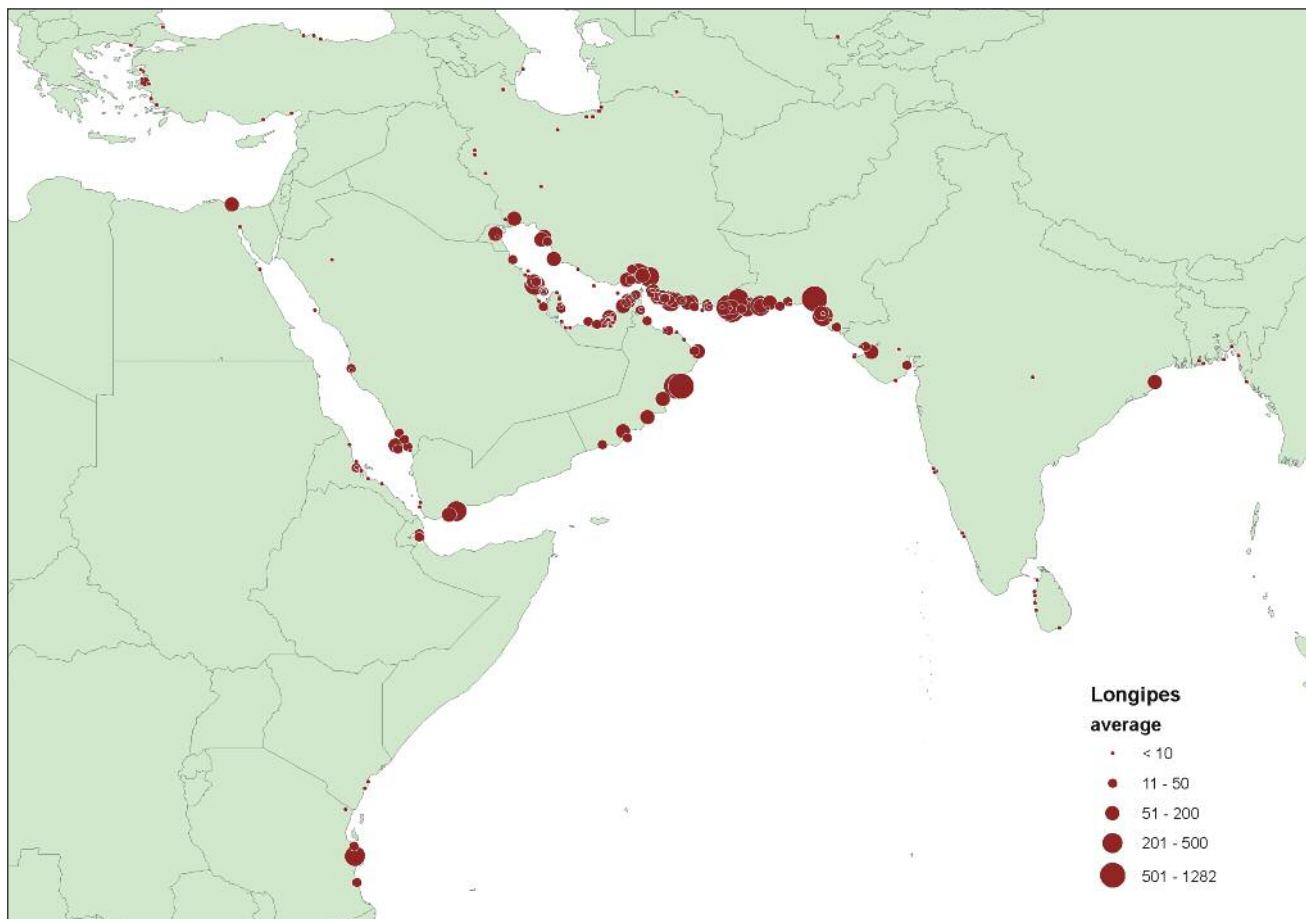


Fig. 2. Non-breeding distribution of *longipes* oystercatchers in the period 1990–2012 as reported to the International Waterbird Census. The dots are the average number per site for the most recent ten counting years per country.

estimated on the basis of the IWC data alone. Taking into account additional references and expert judgement, the total current estimate is 27,000 non-breeding oystercatchers in January of the subspecies *longipes* (Table 1). This corroborates well with the numbers estimated based on breeding numbers (see above). Even when we take the number of wintering oystercatchers in Tunisia partly into this estimate (2,000, van de Pol *et al.* 2014) and consider some of our estimates too low, a total of more than 40,000 wintering *longipes* seems rather unlikely. The latest published population estimate of *longipes* in the Waterbird Population Estimates (Wetlands International 2012) is 100,000–200,000 birds. This was however probably based on a considerable over-estimate of the true population size of this subspecies (Saychev & Mischenko, this volume).

Trend

Because survey data from the wintering range of *longipes* is rather patchy the proper calculation of trends based on this data is problematic at present. The current estimate of 10,000 oystercatchers in Iran however is rather similar to the former estimate of the 1970s of 9,000–12,000 birds (Summers *et al.* 1987), suggesting stable numbers at that wintering ground. In Oman there is an older record of more than 10,700 Oystercatchers in 1991 which is about twice the current estimate. However it could be that this record total was the result of over-estimation based on extrapolated results. The counted numbers in Pakistan and India from the 1990s in comparison with current numbers suggest more or less stable numbers.

Food and habitat during the non-breeding season

In the province of Hormuzgan in Iran, where the largest concentrations of oystercatchers were observed, the birds were always feeding on sandy mudflat areas where the bivalve *Amiantus umbonella* was common (van Roomen, unpublished data). During expeditions to Barr al Hikman, Oman in 2007 and 2008 the oystercatchers often fed too far away to observe them. On the rare occasions that individuals fed relatively closely to observers, the following prey were noted: shellfish, worms and crabs (R.H.G. Klaassen pers. comm.). During an expedition to Barr al Hikman in 2009, a total of 22 prey captures was recorded of birds feeding on mudflats consisting of 12 bivalves, 3 worms and 7 small unidentifiable items (B. Ens unpubl. data) [Photo C and photo D overleaf]. On the Gujarat coast in India, the birds have been observed to feed on rocky coasts and coral reefs (T. Mundkur unpubl. data).

ACKNOWLEDGEMENTS

We acknowledge the immense contribution of many observers of the International Waterbird Census who have collected and submitted waterbird count data upon which we based our analyses. We also thank all coordinators of the national monitoring programmes to whom data have been submitted and who have been sending their data to Wetlands International. We thank Erik van Winden (Sovon, for the

preparation of Fig. 2). Additional information was received from S. Balachandran, Suhel Quader, R. Nagarajan & Virat Jolli (for India), Sayam Chowdhury and Enam Ul Haque (for Bangladesh) and Raymond Klaassen (Oman).

REFERENCES

- Amini, H. & van Roomen, M.** 2009. *Waterbirds in Iran, January 2009: Results of a mid-winter count in the provinces of Gilan, Mazandaran, Golestan, Fars, Khuzestan, Bushehr, Hormozgan & Sistan-Baluchistan*. WIWO/DoE, Nijmegen/Tehran.
- Ali, S. & Ripley S.D.** 1983. *Handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka*. Compact Edition. Oxford University Press, Delhi, India.
- Ash J.S. & Miskell, J.E.** 1998. *Birds of Somalia*. Pica Press, Sussex, UK.
- Delany, S, Scott, D, Dodman, T & Stroud D.** 2009. *An Atlas of Wader Populations in Africa and Western Eurasia*. Wetlands International, Wageningen, The Netherlands.
- Geene, R.** (ed.) 2001. Waterbird count of Zanzibar and Pemba Islands, Tanzania, January 1998. Zeist, WIWO report, The Netherlands.
- Green, M. & Harrison, I.** 2008. Survey of wintering waterbirds at coastal sites in the Sultanate of Oman, January–February 2008.
- Klaassen, R.H.G. & de Fouw, J.** 2008. Short Report. WIWO Expedition to Barr al Hikman (Oman), January 2008, on the abundance and ecology of Siberian shorebirds wintering in the Middle-East. WIWO Report, pp. 1–25.
- Klaassen, R.H.G., de Fouw, J, Thorpe, A, & Green, M.** 2007. WIWO pilot expedition to Barr al Hikman (Oman), January 2007. On the abundance and ecology of Siberian shorebirds wintering in the Middle-East. WIWO Report, pp. 1–33.

Table 1. January population estimates of *longipes* per country. Given are the years from which IWC data were used (based on availability within the database) and sum of site averages from these data. In addition, the total estimates per country are given based on additional references and expert judgement. Preliminary estimates are in italics.

Country	Years	No. of years with counts	Sum of site averages	Total 'estimate'	Additional sources
Azerbaijan	1996–2012	8	0	0	
Bahrain	1990–1994	3	78	150	
Cyprus	2000–2012	10	0	0	
Djibouti	2001–2007	4	146	200	
Egypt	1990	1	127	1,000	Meininger & Atta 1994
Eritrea	1994–2005	8	44	250	
India	1998–2007	8	254	1,000	
Iran	2002–2012	10	6,266	10,000	Amini & van Roomen 2009
Iraq	2007–2010	4	0	0	
Israel	2000–2012	10	0	0	
Jordan	2009–2012	3	0	0	
Kazakhstan	1991–2009	5	0	0	
Kenya	1995–2006	5	1	25	
Kuwait	1990–2000	4	104	250	
Libanon				0	
Oman	1993–2010	10	2,998	5,500	Green & Harrison 2008 Klaassen & de Fouw 2008
Pakistan	1998–2012	10	3,500	5,500	
Qatar	1991–2006	8	48	100	
Saudi Arabia	1990–1996	7	992	1,000	Zwarts <i>et al.</i> 1991
Sri Lanka	1990–2003	5	14	20	
Somalia				200	Ash & Miskell 1998
Sudan				50	Summers <i>et al.</i> 1987
Syria				0	
Tanzania	2004–2005	2	399	500	Geene 2001
Turkey	1994–2012	10	44	50	
Turkmenistan	1993–2006	9	0	0	
U.A.E.	1996–2012	10	590	700	
Ukraine	1996–2010	10	3	5	
Yemen	1997	1	434	500	
Total			16,042	27,000	



Photo D. An Eurasian Oystercatcher (subspecies *longipes*) feeding on the intertidal flats of Barr al Hikman, Oman, surrounded by Bar-tailed Godwits on 22 March 2012 (photo: Jan van de Kam).

Kube, J., Korzyokov, A.I., Nankinov D.N., Munster OAG & Weber P. 1998. The northern and western Black Sea region – the Wadden Sea of the Mediterranean Flyway for wader populations. *International Wader Studies* 10: 379–393.

Meininger, P.L. (ed.) 1990. Birds of the wetlands in north-east Greece, spring 1987, WIWO-report 20, Zeist.

Meininger, P.L. & Atta, G.A. (eds). 1994. Ornithological studies in Egyptian wetlands. Fore Report 94-01/WIWO Report 40. Zeist/Vlissingen.

Sarychev, V. & Mischenko, A. 2014. Oystercatcher conservation assessments – *Haematopus ostralegus longipes*. In: B.J. Ens & L.G. Underhill (eds), *The conservation status of oystercatchers around the World*. International Wader Study Group.

Spiekman, H.W., Keijl, G.O. & Ruiters, P.S. (eds). 1993. Waterbirds in the Kneiss area and other wetlands, Tunisia. Eastern Mediterranean Wader Project, spring 1990. WIWO report 38, Zeist.

Thorup, O. (ed.). 2006. *Breeding Waders in Europe 2000*. International Wader Studies 14. International Wader Study Group.

Zwarts, L., Felemban, H. & Price, A.R.G. 1991. Wader counts along the Saudi Arabian Gulf coast suggest that the Gulf harbours millions of waders. *Wader Study Group Bull.* 63: 25–32.

Wetlands International. 2002. *Waterbird Population Estimates – Third Edition*. Compiled by Simon Delany and Derek Scott. Wetlands International, Global Series No. 12. Wageningen, The Netherlands. 226 pp.

Wetlands International. 2006. *Waterbird Population Estimates – Fourth Edition*. Compiled by Simon Delany and Derek Scott. Wetlands International, Wageningen, The Netherlands. 239 pp.

Wetlands International. 2012. *Waterbird Population Estimates, Fifth Edition*. Summary Report. (Edited by Taej Mundkur and Szabolcs Nagy) Wetlands International, Wageningen, The Netherlands.

