Conservation assessment of *Haematopus ostralegus longipes*

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The subspecies *longipes* of the Eurasian Oystercatcher *Haematopus ostralegus* occupies Eastern Europe and the coasts of the Black, Azov and Caspian Seas during the breeding season. To the east the range extends to the basins of the Chylym and Abakan Rivers. This subspecies is narrowly stenotopic, tolerating only a small range of environmental conditions; it breeds mainly on sandy or gravel-stone coasts, islands and sandbars of rivers, seas and lakes, without grass or with very sparse vegetation. Bivalves are the staple food of *longipes* during the breeding season. In the second half of the 20th century, numbers started to decline due to habitat deterioration (transformation of saline coastal lands into rice fields, construction of channels, water reservoirs and dams, increase in recreation and cattle grazing); since 1990, numbers may have increased locally due to reduction of grazing in coastal areas, decrease of navigation in many rivers and termination of drift of timber wood in northern rivers. The estimate of the 100,000–200,000 breeding pairs in the 4th edition of *Waterbird Population Estimates* (Wetlands International 2006) is too high, because it includes an estimate of 30,000–55,000 breeding pairs for the Yamal region, whereas only 1,000 breeding pairs probably occur there. It is a long-distance migrant. It spends the winter at the coasts of the Red Sea, Persian Gulf, India, East Africa and the Mediterranean Sea. The main current threats for the breeding populations are degradation and reduction of breeding habitats, mortality of clutches and nestlings in areas with high recreation pressure, due to predation of Hooded Crow, gulls and dogs. We recommend that *longipes* be included on the IUCN Red List with the category 'Near Threatened' because of the vulnerability of the subspecies.

TAXONOMIC STATUS

Subspecies *Haematopus ostralegus longipes* Buturlin, 1910 was described by S.A. Buturlin in 1910 (Buturlin 1910) from two birds which had been shot: a male on 17 June 1909 on the River Alej in Tomsk region (West Siberia) and a female on 28 March 1907 in Lenkoran, along the west coast of the Caspian Sea. An alternative name for the subspecies is *Haematopus ostralegus borysthenicus* Charlemagne (Stepanyan 2003). The following have been described as the main distinguishing features: head, neck and rostral part of the back are black with a brownish shade. The bill is longer than that of the nominate subspecies. The subspecies *longipes* occupies Eastern Europe and the coasts of the Black, Azov and Caspian Seas. On the east the range extends to the basins of rivers Chylym and Abakan (see Fig. 1). The ranges of *ostralegus* and *longipes* are disjoint. Near the southern border of the range the subspecies *longipes* intergrades with subspecies *buturlini* (Stepanyan 2003).

LIFE HISTORY

The age at first breeding is not known for this subspecies. Birds probably begin to breed in the age range 47−59 months, as established for the nominate subspecies *ostralegus* (Bianki 1967). The intrinsic population growth rates and population viability are unknown for this subspecies.

Some key biomerics. Available data are presented in Table 1. The clutch size ranges from 2 to 4 eggs, and is usually 3 eggs [Photos A and B]. On the north coast of the Black Sea, Ukraine (Black Sea's State Nature Reserve) mean clutch size varied between 3.0 and 3.8 during the years 1984–1991 with an overall average of 3.43 eggs (n=186 clutches) (Rudenko 1998). Lysenko (1988) estimated a similar value, 3.42 eggs, for this region.

For Belarus, clutch size is usually 3 eggs, rarely 4 eggs (Kozlov 2008); a mean was not given. In the central part of European Russia (valley of River Oka in Ryazan region) the mean value is 3.3 eggs (SE 0.1, CV 14%, n = 12) (Kotjukov *et al.* 1998). In the north of the Low Volga region the mean value is 3.1 (n=8) (Zavjalov *et al.* 1998). In the north-east of European Russia (Kirov region) there are usually 3 eggs in the clutch, very rarely 4. The mean value is 3.06 (n=17). In repeat clutches there are usually 2–3 eggs (Sotnikov 2002). There are no data for the Asian part of Russia (east of the Ural mountains).

Egg size. The available data are presented in Table 2.

Breeding success. The principal cause of losses of clutches and nestlings is predation, by Hooded Crows *Corvus cornix*, the large gulls and predatory birds. This is especially the case when people are in the vicinity of the nest, and the clutch cannot be protected by the adult birds (e.g. Sotnikov 2002). Other causes of mortality of clutches

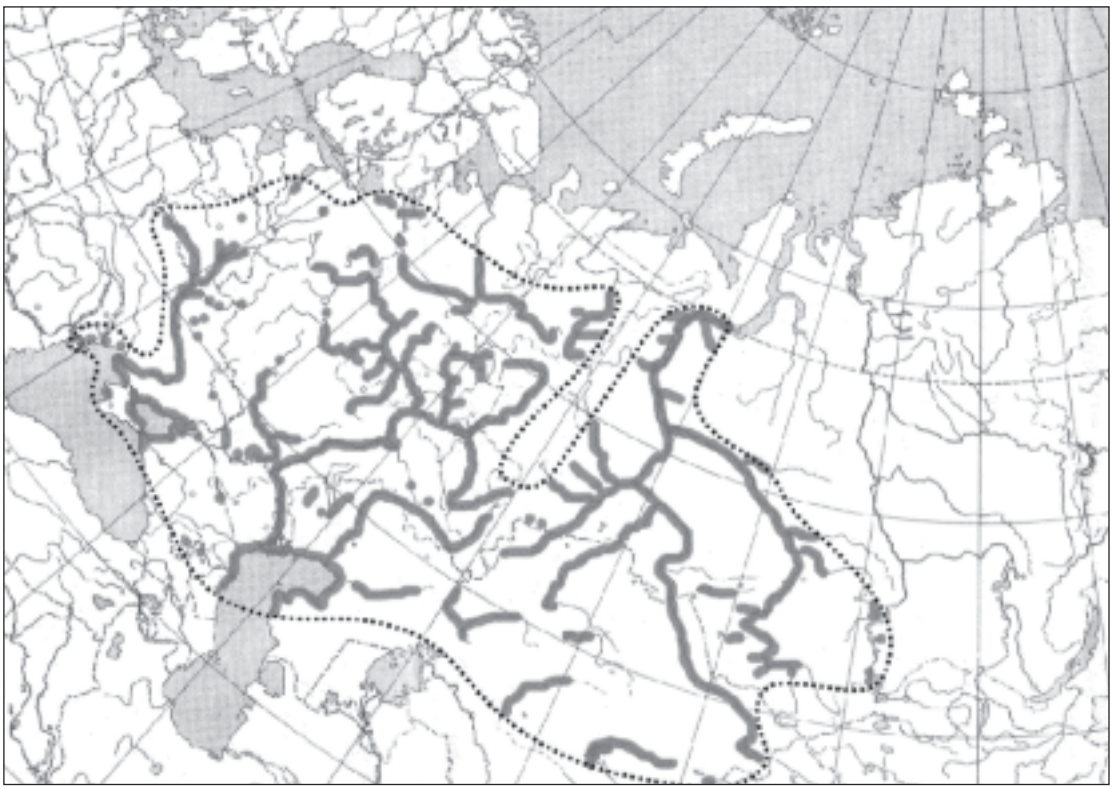

Fig. 1. Map of the breeding range of subspecies *longipes* of the Eurasian Oystercatcher. The main breeding areas within the breeding range are marked by dark grey colour.

and nestlings are predation by dogs and trampling by cattle using beaches for resting and drinking. Floods following prolonged summer rains on rivers and due to prolonged winds on sea beaches and islands can also lead to considerable losses of eggs and chicks.

On the north coast of the Black Sea, Ukraine, an average of 64% of the nests survived to hatching (mean over 12 years) (Lysenko 1988). Annual mortality of nests due to predation by Yellow-legged Gull *Larus cachians* in 1984–1981 varied between 11.1% up to 63.6% (Rudenko, 1998). On the recreational beaches of the city of Gomel (Belarus), clutch mortality reached 38% (Kusenkov 1990). On the River Oka (Ryazan region) the fate of seven nests was followed: nestlings hatched in five (71%) and two nests were destroyed by Hooded Crows. Hatching success on the River Ojat (east of Leningrad region) in 2002 amounted to 2.1 chicks hatching per nest (Pchelintsev 2002).

The pattern of moult is the same as for the nominate subspecies. The partial pre-nesting moult is completed only after birds have arrived to breeding areas (Gladkov 1951).

HABITAT

Haematopus ostralegus longipes is a stenotopic subspecies with strict habitat requirements. It breeds mainly on sandy or gravel-stone coasts, islands and sandbars of rivers, seas, fresh and saline lakes, without grass or with very sparse vegetation. It occasionally breeds in floodplain meadows, choosing plots with short vegetation (abandoned roads, deposits of sand or sludge along a river etc.). It avoids marshy and wooded coasts as well as rivers with deeply embedded valleys. In inland areas of European Russia prefers extensive beaches of medium or large rivers, with *Petasites spurious* and rare *Salix* shrubs. When ephemeral sandbanks are present, birds of this subspecies sometimes breed at a distance of several hundred meters from the river (Lysenko 1988, Kotjukov *et al.* 1998, Sotnikov 2002, Zavjalov *et al.* 2007). In the Asian part of the range *longipes* often breeds on the bars of saline lakes surrounded by steppe or sands (Sushkin 1908 quoted by Gladkov 1951). Very rarely, it breeds on the bottom of sandpits, in fields with spring and winter cereals or potatoes, on stumps and in old nests of cormorants.

Usually pairs of *longipes* breeds in isolation, but pairs sometimes breed at colonies of terns and other colonial *Laridae*.

FOOD

Bivalves are the staple food of *longipes*. In the inland part of the range the main food items are bivalves belonging to the genera *Anadonta* and *Unio*. The birds are able to open their shells, by cutting the closing muscle using the sharp-edged bill. The wader needs one to two seconds for handling the bivalve on the ground immediately after extracting the bivalve from the water. The bird can gather food not only in shallow waters, but also in deeper water, by diving for the food. Chicks cannot gather food themselves for a long time and are therefore fed by the parents (Zavjalov *et al.* 2007).

The mean daily food intake of an adult bird during the breeding season is c. 12 individuals of *Unio* bivalves. The calorific content of that daily ration is c. 754 kJ. Consumption of molluscs increases during the pre-nesting period, is slightly reduced during incubation and then sharply rises again after the eggs hatch.

When the supply of large bivalves does not suffice, birds either do not start breeding at all, or fail to provide sufficient food to the chicks, so these chicks starve instead of fledge

Photo A. Adult Eurasian Oystercatcher belonging to the subspecies *longipes*, settling on a nest with eggs on the coast of Ilmen lake in Novgord region of Russia, 20 June 2007 (photo: Alexander Mischenko).

Photo B. Adult Eurasian Oystercatcher belonging to the subspecies *longipes* incubating a nest with eggs on the coast of Ilmen lake in Novgord region of Russia, 20 June 2007 (photo: Alexander Mischenko).

(based on observations along the small rivers of the Don basin) (Ermokhin 2000 quoted by Zavjalov *et al.* 2007).

Apart from feeding on *Unionidae* these waders also probe the ground and gather invertebrates from the surface. In the Mordovia republic, the food consists of polychaetes, crustaceans, insects and their larva. In Volgograd region sandhoppers *Orchestidae* have been recorded as food. In the Vladimir region (River Klyazma) chicks were fed with big *Lymnaeidae* almost cleared of the shell. In Kirov region *longipes* occasionally catches larvae of lampreys (Sotnikov 2002). Sometimes, birds visit the ploughed sites and meadows in search of food. Along the north coast of the Black Sea the staple food consists of *Cardidae* (Lysenko 1988).

DISTRIBUTION

The breeding range is located in Ukraine, Belarus, Russia and Kazakhstan. Breeding areas are located both at the coasts of the inland seas: Black, Azov and Caspian Seas and at continental waterbodies (large and medium rivers, lakes and water reservoirs).

In Ukraine the subspecies breeds mainly at the north-west coast of the Black Sea, the northern coast of Azov Sea, Liman Bay on the Sivash and low Dnepr River (Lysenko 1988, Ardamatskaya 1999, Lebed and Knysh 1999). Until the 1970s breeding had rarely been observed in Belarus. Nowadays, *longipes* inhabits most parts of the country, expanding from south-east through the basin of the Dnepr (Nikiforov 1998, Kozlov 2008).

In European Russia, the subspecies occurs in the central and the southern parts of the European part and also in Mid Siberia (Gladkov 1951, Kozlova 1961). At the end of twentieth century, the northern border of the range was located in the upper Volga, upper and mid Severnaya Dvina River, mid Pechora River and upper Ilych River. In West Siberia the northern border extended to the city of Salekhard on the Ob River. In the east, the range reached the lower parts of the Abakan River. The southern border was set at coasts of Black and Azov Seas, western Caspian, Volga delta and in Kazakhstan (Sarychev 2000).

During the last two decades, since the 1990s, the breeding range has expanded towards the north-west, north and east. In 1999 breeding was recorded in the Pskov region (Fetisov 1999), in the beginning of 2000 east of the Leningrad region (Pchelintsev 2002), in 2004 south-west of the Arkhangelsk region (Kondratjev and Kovalev 2004). Probably, birds belonging to the subspecies *longipes* began to breed regularly in Onega Lake and other inland areas of the Republic of Karelia (Khohlova and Artemjev 2000). Since 1982 oystercatchers have been recorded in the West-Baikal area, in the Asian part of Russia, where they were not recorded before (Melnikov 1999). A tendency towards range expansion was also recorded in the Altai region.

In Kazakhstan, *longipes* is distributed in steppe and forest-steppe zones, to the north from the Lakes Aral and Balkhash, including the north-east and east coasts of Caspian Sea (N. Berezovikov pers. comm.). The desert zone of Kazakhstan south of Aral Balkhash, Alakol and Zaisan lakes and the rivers Syr-Darja, Tchu and Ili are inhabited by the subspecies *buturlini*.

In spite of its wide range the *longipes* subspecies breeds only sporadically, especially in its European part.

MIGRATIONS AND WINTERING

H. o. longipes is a long-distance migrant. It spends the winter along the coasts of the Red Sea, Persian Gulf, India, East Africa and the Mediterranean Sea (Gladkov 1951, Kozlova 1961, Bianki & Nels 1985). Birds breeding in the inland part of the European range start to show southwards movements from the beginning of July onwards, which fade into migration in the course of August. Migration is finished at the beginning of September. Probably the birds nesting in European Russia migrate southward across the Volga, Don and Dnepr Rivers and further on the west to the Mediterranean Sea, along the northern coasts of the Azov and Black Seas. The basic migratory route of oystercatchers breeding in the Asian part of the range probably passes along the coast of the Caspian Sea.

POPULATIONS: SIZES AND TRENDS

In Ukraine *H. o. longipes* is a rather common breeding bird only along the north coast of Azov Sea, including liman Sivash and the low Dnepr River. It is rare in the inland areas

of Ukraine. The number of breeding pairs in the Kherson region is estimated at 95–100 breeding pairs (Ardamatskaya 1999). The total number of birds breeding along the Ukrainian sea coasts is 150–200 pairs (Kube *et al.* 1998). The total size of the Ukrainian population was estimated at 650–880 pairs (BirdLife International 2004). As a whole, numbers are rather stable in Ukraine, but a decrease in numbers was recorded in the Crimea Peninsula from 1970 into the 1980s due to the transformation of saline coastal lands into rice fields (Lysenko 1988).

In 1970s breeding was infrequently recorded in Belarus. But due to range expansion the total number in the mid 1980s was about 200 breeding pairs (Nikiforov, 1998). A further increase in numbers took place in 1990s. The present-day number in Belarus is estimated to be 230−300 pairs (BirdLife International 2004).

In the southern part of European Russia (Rostov, Volgograd, Krasnodar regions and Northern Caucasus) a reduction in numbers was recorded in the second half of the twentieth century. The main reasons were the construction of channels, dams and other hydrological infrastructure, as well as a widespread increase in recreation and extensive cattle grazing in the coastal zones. An economic crisis in this region has led to an improvement of breeding habitat for the oystercatcher and an increase of population numbers from around the end of the 20th century. The total number of pairs of breeding *longipes* in the southern part of Russia was then estimated to be 200–500 pairs, of which 50−100 pairs in the low Don area and 60 pairs along the east coast of Azov Sea (Belik 1998). At the start of the second decade of the 21st century, numbers were assessed to be 500 breeding pairs (Belik 2002, Chernobay *et al.* 2005, Lokhman *et al.* 2005, Lokhman 2009, Dzhamirzoev & Bukreev 2009).

In the Middle Volga *longipes* was common before construction of several large water reservoirs in middle of the 20th century. After that, numbers decreased to the point where the species become rare (Ajupov 1980, Borodin *et al.* 1994). However, an increase in numbers has been recorded since the end of the 20th century. In the Nizhegorodzkaya region of the Middle Volga area, breeding populations reached 600–700 individuals (Puzanov *et al.* 2005); in the Sura River valley in the limits of Penza region, Mordovia republic and Ulyanovsk region, the population reached 400–470 pairs, and was increasing (Isakov 2007). In Low Volga region, there were similar increases in numbers in comparison with the middle of the twentieth century: in Saratov region, from 40–95 pairs to 60–120 pairs; in Ulyanovsk region. from 50–60 pairs to 100–120 pairs (Borodin *et al.* 1994, Zavjalov *et al.* 1998, Zavjalov *et al.* 2007).

In the Upper Volga area the subspecies *longipes* is rare. The main part of the population here inhabits Basin of Oka River in Ryazan region where there are 78–112 pairs (Ivanchev and Kotjukov 1999). The total aggregate numbers for Middle and Upper Volga regions can be assessed at 2,500–3,500 breeding pairs.

In the north-east of European Russia the largest population, 700–800 breeding pairs, is known from the Kirov region (Sotnikov 2002). In the north-west and north regions of European Russia, numbers are low and rough estimate suggests that the population does not exceed 200–400 pairs. The total number of *longipes* in Southern Ural (Bashkiria republic, Chelyabinsk and Orenburg regions) is approximately 1,000–1,500 individuals (Zakharov 2006) or probably 200–400 breeding pairs.

A safe and stable population inhabits the basin of the Ob River in West Siberia. For example, breeding density of this bird in the Ob floodplain within the northern taiga reaches 21 individuals per 1 km^2 (Ravkin and Lukjanova 1976, Ravkin 1978). Between 300 and 500 pairs breed in IBA "Dvuobje" with an area of 68,000 ha (Golovatin 2006). The total population size in the Yamalo-Nenetskiy region is assessed at 3,300 individuals (Krivenko *et al.* 2009) or about 1,000 breeding pairs. The number of 30,000–55,000 breeding pairs published by Tertitsky *et al.* (1999) for this region seems to us to be an overestimate by more than an order of magnitude.

To the south of West Siberia numbers are relatively small. The total population in the entire Tyumen region with an area 1,435,200 km^2 was assessed to be 10 pairs (Gashev 2006). In the regions of Omsk and Novosibirsk, small numbers of breeding pairs were found (Yakimenko 2006). In the Altai region, 150–170 breeding pairs were recorded, but the actual population is larger. The available data suggest that an estimate of the total population size in West and Central Siberia to be in the range 2,000−3,000 breeding pairs.

The Russian population of *Haematopus ostralegus longipes* at the end of 20th century/start of 21st century is assessed to be in the range 5,600–8,100 breeding pairs, of which 3,600–5,100 occur in the European part and 2,000–3,000 in the Asian part of the range.

At the beginning of the 1990s, the population for European Russia was estimated to be 2,000–4,000 breeding pairs (Sarychev 2000). It is beyond doubt that the increase in numbers was due to improvement of breeding conditions around 1990 mentioned by many authors.

Haematopus ostralegus longipes is not rare in Kazakhstan. It is fairly common along the large lakes: Alakol,

Table 1. Biometric data of *Haematopus ostralegus longipes*.

Parameter (mm / region)	Former USSR (Gladkov 1951)	Former USSR Kozlova 1961	Kirov region (Sotnikov 2002)
Wing length ♂	242–266 (255.8) n=10	243–265 (253)	253–262 (259)
Wing length ♀	254–267 (261.4) n=7	244–269 (256)	246–278 (264.4)
Bill length ♂	68.5–81.9 (75.4) n=29	70.6–80.0 (75.8)	70–72 (71.3)
Bill length ♀	77.0–90.9 (86.6) n=17	80.0–89.5 (84.1)	77–89 (81.8)
Tarsus ♂♀	–	48.5–55.0 (50.0)	50–65 (54.8)
Sample size (no. of individuals)		?	17

Balkhash, Tengiz-Kurgaldzhino. On the banks of the large rivers 1–2 pairs breed per 10 km. The total number of this subspecies in Kazakhstan is estimated at 500–800 breeding pairs (Nikolay Berezovikov pers. comm.). Numbers are decreasing along rivers with high recreation pressure (for example the Ural River) on the sandy or gravel-stone beaches and islands. The important natural factor influencing oystercatcher numbers are cyclic fluctuations of water level of steppe and desert lakes, which sometimes even dry out completely. This is a common phenomenon for lakes in Kazakhstan.

On the basis of the above, the total population of the subspecies *Haematopus ostralegus longipes*, including the Russian Federation and Kazakhstan, is estimated at 7,000–10,000 breeding pairs.

DEMOGRAPHIC AND MECHANISTIC CAUSES OF POPULATION CHANGE

In our opinion, anthropogenic factors (mainly in the European part of the breeding range) played a crucial role in the second half of the 20th century. Construction of large water reservoirs on the Dnepr, Don, Volga and Kama Rivers led to a significant reduction of breeding habitat due to the permanent flooding. This is a explanation of the decrease in population of *longipes*' and was reported by many researchers. At the same time, recreation and farming use of the coastal zones of the inland seas increased. Both factors also led to increased mortality of eggs and chicks. Drift of harvested timber on northern rivers also negatively influenced breeding habitats. Hunting may also have played a negative role, because up to the 199os the oystercatcher was listed as a game bird in Russia.

At the end of 20th century, as a consequence of sociological and economic issues, the numbers of this subspecies stabilized and then began to increase in some areas. In European Russia a series of factors acted together to improve habitats: there was a massive reduction of grazing in coastal areas; use of many of the rivers for navigation decreased; on northern rivers, the practice of using them to drift timber downstream ceased.

The inclusion of *longipes* in the Red Data Book of the Russian Federation in 1997 and a subsequently in the Red Data Books of all regions located within the breeding range of the subspecies also played a positive role.

Since the start of the 21st century, associated with improved economic conditions, there has been large growth in recreational pressure; there are increasing numbers of motor boats being recorded in the rivers which provide the breeding habitat for *longipes*; this is especially the case in the European part of Russia. This seriously impacts nesting conditions through wave action, and the consequence is a reduction in the abundance of this wader. Decreasing populations of *longipes*' in some regions during the first decade of 21st century were reported by Saryshev & Klimov (1999, Belik *et al.* (2003) and Lebedeva *et al.* (2009).

IUCN CONSERVATION STATUS

From a species perspective, the conservation status of *Haematopus ostralegus* is considered secure and it is not included on the IUCN Red List (BirdLife International 2004). In our opinion it is necessary to include the subspecies *longipes* on the IUCN Red List with the category Near Threatened (NT), because of the vulnerability of the subspecies. There is a real risk that numbers will decrease

Table 2. Egg size measurements of *Haematopus ostralegus longipes*.

Region	Sample size	Size range (mm)	Mean (SE) (mm)	Source
North of Low Volga	25	52.5–61.1 x 38.8–42.0	56.8 (0.31) x 40.1±0.14	Zavjalov *et al.* 1998
River Oka, Ryazan region	15	49.8–58.1 × 37.5–41.3	54.47 (0.73) x 39.29 (0.32)	Kotjukov *et al.* 1998
Ukraine, north coast of Black Sea	28	46.4–55.0 × 34.0–39.7	52.6 × 38.2	Lysenko 1988
Belarus	25	49.1–58.0 × 36.4–41.1	54.28 × 38.90	Kozlov 2008
South Ural	8	51.5–55.0 × 38.0–41.7	53.8 × 39.8	Zakharov 2006
Kirov region	23	50.7–57.1 × 36.5–40.0	55.0 × 38.6	Sotnikov 2002
Kirov region	6	54.2–58.5 × 36.3–42.0	56.5 × 41.0	Plesskiy 1970, quoted by Sotnikov 2002
Perm region	4	51.7–56.0 × 38.2–39.2	54.3 × 38.9	Litvinov 1992, quoted by Sotnikov 2002
Komi republic	3	50.9–55.0 × 37.4–39.1		Estafjev 1995, quoted by Sotnikov 2002
West Siberia	11	53.3–58.9 × 37.5–41.6	55.5 × 39.4	Strelkov 1973, quoted by Gyngazov Milovidov 1977

significantly in the near future, as a result of deterioration of breeding habitats due to development of agriculture and an increase in recreation pressure. This is a subject for discussion among ornithologists from all range states of this subspecies.

THREATS

Ten factors most obviously negatively influenceg populations of *Haematopus ostralegus longipes* during the breeding period:

1. Reduction of area of breeding habitats due to construction of hydrological objects (dams, water reservoirs etc.), drainage, recreation use and transformation into farmlands.
2. Degradation and reduction of breeding habitats due to overgrowing by shrubs after termination of grazing in coastal areas (mainly in the northern part of the breeding range).
3. Degradation and decrease of breeding habitat as a result of desiccation of lakes in southern parts of the breeding range.
4. Pollution of waters leading to decrease in numbers and mortality of molluscs.
5. Intensive grazing in the southern part of the breeding range.
6. Predation of eggs by *Corvidae*, big gulls and American Mink.
7. Predation of chicks by *Corvidae*, ownerless dogs, big gulls, American Mink and fox.
8. Disturbance by people during the breeding season, especially in recreational areas.
9. Increases of the water level during the nesting period due to regulation of water bodies in reservoirs; strong prolonged rains and high winds are also a problem;
10. Illegal shooting.

During migration and wintering, we suspect that the most important factors are hunting and illegal shooting, and a reduction in the size of areas suitable for resting and feeding.

RECOMMENDATIONS FOR CONSERVATION RESEARCH

We suggest that the estimation of numbers and the determination of trends should have priority for this subspecies:

1. **Monitor the numbers and breeding success in key nesting areas.** In the European part of the range, this needs to be undertaken along the coasts of the Black and Azov Seas, Dono-Tsimlayanskie Sands, Middle Volga and the Rivers Sura, Oka and Vyarka. In the Asian part of the range, the focus needs to be on the valley of River Ob including the Yamalo-Nenetskiy region as well as Altai region and Kemerovo region.

2. **Monitor numbers and changes in distribution.** This needs to be undertaken at the periphery of the range in the north-west (River Svir in Leningrad region, Ilmen Lake in Novgorod region and Onega Lake in Karelia Republic), in the north (basin of River Pechora) and in the east (Krasnoyarsk region).

3. **Locate the stopover areas along the migration routes and monitor the numbers, trends and threats in these areas.** This should include the coasts of the Black, Azov and Caspian Seas.

4. **Locate the wintering areas of the subspecies and monitor the numbers, trends and threats in these areas.** This applies especially for birds wintering on the coasts of the Persian Gulf, India and East Africa.

RECOMMENDATIONS FOR MANAGEMENT

1. **Legal protection.** Include *Haematopus ostralegus longipes* in the Red Data Book of Kazakhstan.

2. **Territorial protection.** Strengthen protection measures in IBAs that are important for breeding and staging on migration. At present, only a small part of the population is really protected in several state nature reserves (zapovedniks), including those along the Black Sea (Ukraine), in Pripyat (Belarus), in the Astrakhan and Darwin Reserves (Russia) and in Naurzum (Kazakhstan).

3. **Introduce special programmes** supporting traditional 'environmentally-friendly' farming in key breeding areas (including northern areas).

4. **Designate** key breeding, staging and wintering areas and **create** nature protection areas in them, with restrictions on economic use and recreation.

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APPENDIX 1. LEGAL STATEMENT

Russia: *Haematopus ostralegus longipes* is included in the Red Data Book of the Russian Federation (category 3 – rare and sporadically distributed subspecies) and in Red Data Books of all regions located within the breeding range of the subspecies.

Belarus: included in the Red Data Book (category 3 – rare taxon without threat of extinction).

Ukraine: VU – vulnerable taxon.

Kazakhstan: the subspecies is not included into the Red Data Book.

We have no data on protection status in other countries within the breeding range.

APPENDIX 2. KEY CONSERVATION SITES (SUMMER AND WINTER)

List of sites of international importance, supporting more than 1% of the entire population of the subspecies (80–120 pairs):

- IBA 'Dvuobje' (Russia, Yamalo-Nenetskiy region): 300–500 breeding pairs (Golovatin 2006).
- River Vyatka (Russia, Kirov region): up to 700 breeding pairs (Sotnikov 2002).
- River Sura (Russia, Penza region, Mordovia republic and Ulyanovsk region) (Isakov 2007): 400–470 breeding pairs.
- Delta of river Don (Russia, Rostov region): stopover during migration of 1,000–5,000 individuals (Belik 2009).
- Delta of river Danube (Ukraine and Romania): stopover during migration of more than 5,000 individuals (Kube *et al.* 1998).
- Black-Sea's State Nature Reserve (Ukraine): stopover during migration of several hundred individuals (Kube *et al.* 1998).