

# LIFE – Limosa Schleswig-Holstein

Conservation studies of  
Ruff (*Calidris pugnax* – KAMPFLÄUFER)  
and  
Baltic dunlin (*Calidris alpina* – ALPENSTRANDLÄUFER)  
in Schleswig-Holstein

*Ole Thorup*

Report of field work 2020



## Introduction:

Ruff and Baltic dunlin are two of the rarest and most threatened breeding bird species in Germany, and both are red listed as critically endangered (*'vom Aussterben bedroht'*) in the most recent red lists for Schleswig-Holstein and Germany (Knief et al. 2010, Grüneberg et al. 2015). In contrast to most other endangered bird species, the level of knowledge of the two species is low, and at the time of the start of the LIFE Limosa project it had for years even been questioned, whether the two species were breeders in Schleswig-Holstein any longer (LANU 2008, Knief et al. 2010).

There are no monitoring programmes in Schleswig-Holstein directed specifically at ruff or dunlin, and the two species are covered in their key areas by observing presence or absence in pre-described periods during multispecies mappings, only (e. g. Hälterlein et al. 1995). Additional observations of breeding behaviour are collected unsystematically. Furthermore, ruffs have a prolonged breeding season with a peak after the period when most other meadowbirds are being surveyed (e. g. Thorup 2016), their behaviour in the breeding season during the egg and chick phases is very discrete apart from a short period during the early chick rearing, and they tend to breed away from the highest concentrations of other – more conspicuous – meadowbirds. Hence, there is not collected sufficient information from the standard monitoring programmes to evaluate the population status or to identify the exact breeding sites including nest and chick rearing areas, crucial information in order to safeguard proper management in the core breeding areas of the two species.

As part of the LIFE Limosa project in Schleswig-Holstein, more detailed knowledge about breeding of the two species is collected, in order to obtain better knowledge of their population status and to understand and thereby improve their breeding conditions.

The monitoring programmes in Schleswig-Holstein (as well as e. g. in Denmark and southern Sweden) are primarily based on the assumption that there is a strong correlation between the presence of ruffs in the period between the northward migration ends and the return of the southward migrants starts, and the numbers of ruffs that are actually breeding. In the Wadden Sea of Schleswig-Holstein this period is approximately 20 May-8 June in males, and 20 May-16 June in females like it is found in Denmark (Thorup et al. 2019). Hälterlein et al. (1995) restricted the period further to 28 May-10 June for both sexes. As ruffs are rarely seen in this period away from sites with apparently suitable breeding habitat for the species, the special ruff inventories performed within the LIFE Limosa project will also collect information that may verify or disprove this assumption and thereby make it possible qualitatively to improve future monitoring of ruff populations.

## Numbers of breeding ruffs in project sites

### Ruff

In 2020 the standard counting programmes counted ruffs in the project sites Rickelsbüller Koog, Beltringharder Koog and the Eider Estuary.

Within the LIFE Limosa project, field work in 2020 was confined to two full days of ruff surveys in Meldorfer Speicherkoog and Dithmarscher Speicherkoog, and two visits to the new polder in Rickelsbüller Koog in order to check water table and vegetation development.

Altogether, 10 females and a minimum of 5 males were found in the project sites in 2020 (Table 1). They were showing breeding behaviour or/and were found in the core breeding season. This is, by far, the lowest number observed in the project period 2013-2020.

Like in the previous years, the size of the breeding population is estimated from the number of ruffs, in particular females, observed in the period between the last northern breeders have left the area and the first returning birds arrive – the so called ‘counting window’. This window is set as 20 May till 16 June for the females, and 20 May till 8 June for males. Ruff females are very discrete breeders, above all in the incubation period when they often flush in front of a visiting observer on a very short distance and sometimes not at all, or alternatively they flush and disappear easily undetected quite far away from the observer. Therefore, it takes very intensive fieldwork directed at finding ruff females by criss-crossing meadows repeatedly to count breeding females in this way. This is usually not attainable due to the massive workload it involves. Females have never been shown to perform large-distance dispersal/movement late May or early to mid-June, and from the present knowledge of their breeding strategy, the best available method to estimate the number of females that stay and attempt to breed in an area is to count the number of females present in the ‘counting window’.

In general, the very dry spring in April and May 2020 created poor breeding conditions for ruff in north-west Europe. Also, in the north-west European key site for ruff Tipperne in Denmark there were found exceptionally few breeding ruffs in 2020. The 6 breeding female ruffs here (Thorup & Bregnballe 2020) was the lowest number observed since the annual counting of breeding birds started in 1928.

Table 1. Breeding ruffs found in the Life Limosa project sites in the 2020 breeding season.

**Ruff 2020**

Site	Verified breeders		Probable breeders		Birds attempting to breed		Population 'guestimate'
	Females with chicks or chick clutch seen	Additional females with nest	Additional females from nest habitat empty nest bowl found	Additional females in nest habitat	Females seen between 20 May and 16 June	Males seen between 20 May and 8 June	
Rickelsbüller Koog	0	0	0	n/a	1	2	1
Hauke-Haien Koog	0	0	0	0	1	n/a	1
Ockholmer Vordeichung	0	0	0	1	0	0	1
Beltringharder Koog, Arlauer Speicherbecken	0	0	0	0	0	0	0
Beltringharder Koog, central area	0	0	0	3	3	3	6
Beltringharder Koog, northern areas	0	0	0	0	0	0	0
Eiderdammflächen, Katinger Watt	0	0	0	0	0	0	0
Olversumer Vorland-Grüne Insel	0	0	0	0	0	0	0
Oldensworter Vorland	0	0	0	0	0	0	0
Karolinenkoog Vorland	0	0	0	0	0	0	0
Meldorfer Speicherkoog - Wöhrdener Loch	0	0	0	0	0	n/a	0
Meldorfer Speicherkoog - Odinsloch-Nordkoog West	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Meldorfer Speicherkoog - Nordkoog East	0	0	0	1	0	0	1
Dithmarscher Speicherkoog Süd	0	0	0	0	0	0	0
Seether Ostermoor	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Alte Sorge Schleife	n/a	n/a	n/a	n/a	n/a	n/a	n/a
<b>Project sites total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>5+</b>	<b>10</b>

Observers:
Holger Bruns
Jutta Hansen
Dagmar Cimiotti, Brigitte Klinner-Hötker, Dominic Cimiotti, Luis Schmidt
Brigitte Klinner-Hötker
Holger Bruns, Ole Thorup, Volker Salewski, Oliver Granke
Ole Thorup, Volker Salewski
Ole Thorup, Volker Salewski, Oliver Granke

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2019 Project sites total	2	0	0	0	27	22	27
2018 Project sites total	2	0	0	1	60	46	60
2017 Project sites total	5	2	0	9	25	31	31-33
2016 Project sites total	1	3-4	0	3	52-53	46+	49-51
2014 Project sites total	6-7	2	0	1	44-45	38+	43
2013 Project sites total	3	3	1	2	18	20	19

## **Field work in 2020**

### **Water table and vegetation development in the new polder in Rickelsbüller Koog**

The new polder in Rickelsbüller Koog was visited 12 June in the afternoon and 2 July in the afternoon; 2 July together with Oliver Granke and Wiebke Sach.

12 June the entire polder was flooded except the slopes of the dike, and all May and June there had been a similar high water table. (O. Granke pers. comm.).

2 July the water table was a little lower. The vegetated areas in the polder were moist but not water covered and there were both mudflats and open water. The digital water level gauge showed a water level at 4.22 m, which is a very high summer water table.

It is difficult to hold a particular water level in the polder in situations with little precipitation. The ideal water table in the early ruff breeding season late May till mid-June is probably some 3.90-4.15 m.

Compared to 2019 much more grassy vegetation had developed in the polder, and there was potentially useful nest vegetation for tuft breeders like ruff and redshank scattered around.

In total 45 males and 24 females of ruff were seen in the polder 2 July. None of the ruffs showed any kind of breeding behaviour, and the visit date was so late in the season that the southward migration by northern breeders was in full swing.

### **Vegetation development in the north-eastern parts of Rickelsbüller Koog**

This area was visited briefly 2 July together with Oliver Granke and Wiebke Sach in order to check the grazing management in the moist parts, where reed development during the recent years gradually replaced the former key ruff grass nesting habitat. Compared with 2019, it seems that the present grazing management is improving the situation. There were significantly more open areas in the reed in 2020 and thereby more suitable ruff nesting habitat.

## **Ruffs in the southern, central and north-eastern parts of Wöhrdener Loch in Meldorfer Speicherkoog**

Breeding ruffs were searched for in the southern and central parts and in the north-eastern part of Wöhrdener Loch 13 June in the afternoon together with Volker Salewski and Oliver Granke. These meadows had at least three breeding females of ruff in 2013, but in 2020 the meadows were very dry in May. In 2013 there was also a lek at an adjacent wetland with up to ten males in the middle of the breeding season. Three males were seen here at the visit in 2020, they showed no breeding behaviour, and due to the fairly late date, they could have been feeding early migrants only.

In general, the vegetation structure looked good for tuft breeding shorebirds like ruff and redshank. The present grazing and mowing management apparently suit such species very well.

## **Ruffs in eastern part of Nordkoog in Meldorfer Speicherkoog**

A ruff survey was performed in the meadows of the eastern part of Nordkoog in Meldorfer Speicherkoog in the morning on 13 June together with Holger Bruns, Volker Salewski and Oliver Granke.

One female ruff was flushed from the meadow on a long distance, in the same area where ruffs have been found nesting and chick rearing in 2016-2019. It did not return as long as we were still on the location. This behaviour was most likely indicating that the bird had a nest with eggs, and that it may still have been in the early part of the incubation. A total of five males were seen, three at the coast and two in the meadow. They may all have been early migrants on southward migration, but in particular the two males in the meadow may still have been in “breeding mood”.

In the years before the LIFE Limosa project started, ruffs were virtually unknown as a breeding species in Meldorfer Speicherkoog. Despite a fairly limited number of field visits to the area directed at finding breeding ruffs, breeding has been verified here almost annually in the project period.

The Nordkoog east of the Wöhrdener Hafenstrom was surveyed for ruff for the first time in 2016, and this year a ruff with a nest and a ruff with chicks were found on the two visits together with a large lek that was active late in the breeding season after some days with plenty of rain. In 2017, two female ruffs were flushed from nests, and two additional females with chicks were found on the three visits in the area. At the 2018 survey, two females were found with chicks, and again in 2019 two females were observed with chicks. In 2020, no late survey was conducted, and it is therefore unknown whether the 2020 female had hatching success.

2018, 2019 and 2020 were all years with unusually dry conditions on the meadows, which in general created poor breeding conditions for ruff in NW Europe. Even in such years, the breeding environment for ruffs in Nordkoog was so favourable, that in two years at minimum two females managed to hatch chicks here, and even in 2020, which had the driest conditions in May, a female stayed in the area. This underlines that this part of the Nordkoog must be a key site for breeding ruffs. All finds of nests and chicks of ruffs here have been within approximately 200 m from the

coastline of a shallow coast or a deep gully, which is wet or moist in most situations when the adjacent meadows are dry (map in Thorup 2019).

The meadows are likely very favourable for breeding ruffs because they are having a poor soil with slow-growing and open grassy vegetation. This habitat is maintained by a quite light grazing by a mixture of cattle and sheep and a late mowing. Actions during the LIFE Limosa project have improved the breeding habitat further: a tree line along the eastern edge of the meadows has been removed thereby reducing the predation risk by avian predators on the meadows, and several gullies has been blocked, thereby retaining more water in dry periods and prolonging favourable feeding conditions for the ruffs including in the core area of the species.

There were more grazing animals than in the previous years, and the vegetation was more grazed down in 2020 compared to earlier. However, there were still suitable areas with nesting habitat for tuft breeding shorebirds like ruff and redshank, including in the section of the site where ruffs bred in earlier years and the female ruff was present this year. The vegetation structure in 2020 was probably also affected by the dry conditions in April and May that resulted in a delayed vegetation growth.

## **Ruffs in Dithmarscher Speicherkoog Süd**

Breeding ruffs were searched for on the morning and noon on 14 June together with Volker Salewski, where large parts of the central meadows were walked through. The meadows were unusually dry, and not a single ruff was seen in the area.

All ruffs disappeared from the area early and mid-May, when the area became very dry (V. Salewski pers. comm.).

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