

## BIRDS FROM FOUR COASTAL SITES IN THE NETHERLANDS

WIETSKE PRUMMEL  
Biologisch-Archaeologisch Instituut  
Poststraat 6  
NL-9712 ER Groningen

**ABSTRACT:** Bird remains from four coastal sites in the Netherlands, dating from the first century AD until the 17th century, are discussed. Several breeding species of Roman times lost their habitat afterwards. Duck decoys, plover nets and standing nets for scolopacine birds or their predecessors were in use at least since the early middle ages.

**KEYWORDS:** THE NETHERLANDS, BIRD REMAINS, ROMAN PERIOD, EARLY MIDDLE AGES, 17th CENTURY, DUCK DECOYS, PLOVER NETS, STANDING NETS

**RESUMEN:** El trabajo valora las avifaunas recuperadas en cuatro yacimientos costeros holandeses que abarcan un lapso temporal entre el siglo I y el XVII. Varias especies que nidificaban en el país en época romana han dejado de hacerlo. Se constatan, cuando menos desde principios de la Edad Media, la existencia de cimbeles, redes para chorlitos y redes fijas de captura de aves.

**PALABRAS CLAVE:** PAISES BAJOS, RESTOS DE AVES, ROMANO, ALTA EDAD MEDIA, SIGLO XVII, CIMBEL, RED DE CHORLITO, RED FIJA

### INTRODUCTION AND MATERIAL: THE SITES

This paper discusses bird remains from four sites along the west and north coast of the Netherlands, the biotopes of the birds and the fowling methods possibly used. The four sites are Velsen 1, Wijnaldum, Oosterbeintum and Harlingen (Figure 1). Velsen 1 was a Roman castellum on the west coast of the Netherlands that existed from about AD 15 to about AD 30. The site, which was excavated in the 1970s and 1980s, had been situated in the freshwater environment of the River Oer-IJ, a former branch of the River Rhine. Open water, sandbanks, clay deposits, back swamps, lagoons, peat-bogs, coastal barriers and dunes had been present in the surroundings of the site, while the mouth of the River Oer-IJ had been 20 km away. The coastal barriers had protected the site against the sea. No sieving was done during the excavation, but the bones were recovered with great care.

Wijnaldum and Oosterbeintum were situated on salt marshes among tidal flats in the North of the Netherlands (Figure 1). Higher parts of these salt marshes have been inhabited since the Iron Age. The sites, which are called *terpen* or *wierden*, were heightened with sods to protect them against flooding. The high salt marsh offered good opportunities for animal husbandry, especially for grazing cattle and sheep. From the 11th century onwards the area became protected by dikes.

The North of the Netherlands was not occupied by the Romans. However, there were many contacts with the Roman Empire, as is evident from the many Roman objects found in the *terpen*. The habitation of Wijnaldum started in the 2nd century AD and lasted until late medieval times. The excavation started in 1991 and is still in progress. The results given in Table 1 are preliminary. Water-sieving with meshes of 4 and 1.5 mm has been done. Oosterbeintum was an early medieval

mixed cemetery of inhumations and cremations, in which animals (one horse and six dogs) have been buried as well as people (Prummel, in press). The cemetery was in use from about AD 450 until about AD 750. Samples of soil from cremations have been water-sieved with 1.5 mm mesh. The cemetery has been excavated in 1988 and 1989. The publication is in progress.

Harlingen was a sea port on the Wadden sea (Figure 1). The material studied comes from a 17th-century cesspit of a well-to-do family.

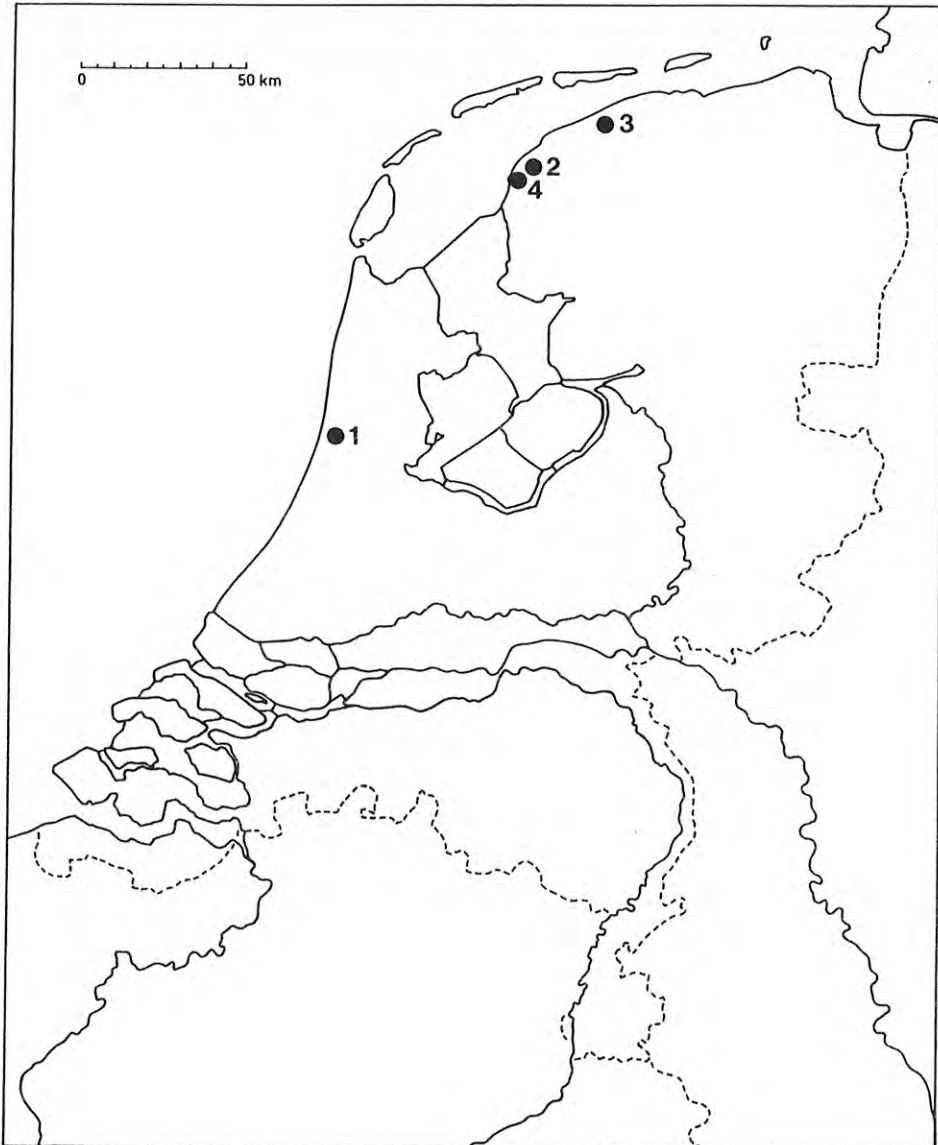


FIGURE 1 - Map of the Netherlands with 1. Velsen 1, 2. Wijnaldum, 3. Oosterbeintum and 4. Harlingen.

SITE	1	2	3	4
<b>DOMESTIC BIRDS</b>				
<i>Gallus gallus domesticus</i>	+	+	+	+
<i>Pavo cristatus</i>	+	-	-	-
<i>Anser anser</i>	-	(+)	(+)	(+)
<i>Columba livia</i>	-	-	-	+
<b>WILD BIRDS</b>				
<i>Gavia stellata</i>	+	-	+	-
<i>Ardea cinerea</i>	+	-	-	-
<i>Platalea leucorodia</i>	+	-	-	-
<i>Cygnus bewickii</i>	-	+	+	-
<i>Cygnus olor/cygnus</i>	+	+	-	-
<i>Anser anser</i>	+	+	-	(+)
<i>Anser fabalis</i>	+	-	-	-
<i>Anser albifrons</i>	+	+	-	-
<i>Branta bernicla</i>	+	-	-	-
<i>Branta leucopsis</i>	+	-	-	-
<i>Tadorna tadorna</i>	+	-	-	-
<i>Anas platyrhynchos</i>	+	+	+	+
<i>Anas strepera</i>	-	+	-	-
<i>Anas penelope</i>	+	+	-	+
<i>Anas crecca</i>	+	-	+	+
<i>Anas acuta</i>	(+)	+	-	+
<i>Anas clypeata</i>	-	+	-	+
<i>Aythya fuligula</i>	+	-	-	-
<i>Aythya marila</i>	+	-	-	-
<i>Aythya sp.</i>	-	-	+	-
<i>Bucephala clangula</i>	+	-	-	-
<i>Mergus merganser</i>	+	-	-	-
<i>Haliaeetus albicilla</i>	+	+	-	-
<i>Lyrurus tetrix</i>	+	-	-	-
<i>Perdix perdix</i>	+	-	-	-
<i>Grus grus</i>	+	-	-	-
<i>Pluvialis apricaria</i>	+	+	+	+
<i>Calidris alpina</i>	-	+	+	-
<i>Calidris minutus/temminckii</i>	-	(+)	+	-
<i>Calidris canutus</i>	-	+	-	-
<i>Tringa totanus</i>	-	+	+	-
<i>Philomachus pugnax</i>	+	+	-	-
<i>Numenius arquata</i>	+	-	+	-
<i>Limosa sp.</i>	-	+	-	-
<i>Scolopax rusticola</i>	+	-	-	-
<i>Gallinago gallinago</i>	+	-	-	-
<i>Larus argentatus</i>	+	-	-	-
<i>Larus cf. marinus</i>	+	-	-	-
<i>Columbus palumbus</i>	+	-	-	-
<i>Turdus pilaris</i>	+	-	-	-
<i>Turdus philomelos</i>	+	-	-	-
Fringillidae	+	-	-	-
<i>Pica pica</i>	+	-	-	-
<i>Corvus corax</i>	+	-	-	-
<i>Corvus cf. frugilegus</i>	+	-	-	-
<i>Corvus corone</i>	+	-	-	-

TABLE 1 - Birds from coastal sites in the Netherlands: 1 - the Roman castellum Velsen 1 (AD 15-30) (Prummel, 1987); 2 - Wijnaldum (2th - 10 century) (Prummel, 1991); 3 - early medieval cemetery Oosterbeintum (AD 450-750) (Prummel, 1991); 4 - Harlingen, 17th-century cesspit (Prummel, 1992). + species or group present, (+) species or group presumably present, - species or group absent.

## RESULTS: THE BIRDS

## Velsen 1

The most important bird species at Velsen 1 was the domestic fowl: 80% of the bird remains were chicken bones. The Romans introduced the domestic fowl into the Netherlands (Prummel, 1987; Lauwerier, 1988). Peacock (*Pavo cristatus*) was represented by a single bone (Prummel, 1987). Domestic goose has not been demonstrated in Velsen 1.

A wide variety of wild birds was represented at the castellum (Table 1: 1; Prummel, 1987). Ducks, in the first place mallard (*Anas platyrhynchos*), geese and swans, in the first place greylag goose (*Anser anser*), and crane (*Grus grus*) (Figure 2) were the most important wildfowl species caught by the soldiers. Black grouse (*Tetrao tetrix*), wood pigeon (*Columba palumbus*) and partridge (*Perdix perdix*) were caught in small numbers. The soldiers caught several species of wader (Charadriidae and Scolopacidae), each of which is represented by one or more bones: golden plover (*Pluvialis apricaria*), ruff (*Philomachus pugnax*), curlew (*Numenius arquata*), woodcock (*Scolopax rusticola*) and snipe (*Gallinago gallinago*). The white-tailed eagle (*Haliaeetus albicilla*) was hunted for its flight feathers. The other wild birds were represented by just a few bones. Among them the Corvidae and the Turdidae were of some importance (Table 1: 1).

## Wijnaldum and Oosterbeintum

The only domestic bird in these sites was the domestic fowl, which was represented in small numbers (Table 1: 2-3). Obviously domestic fowl was still rare in the North of the Netherlands in the first centuries AD. This is in accordance with the situation at the *terp* Feddersen Wierde in the North of Lower Saxony (Germany), dating from the 1st century BC until the 5th century AD, where not a single bone of domestic fowl has been found (Reichstein, 1991).

The most important wild birds in Wijnaldum and Oosterbeintum were ducks and waders, Charadriidae and Scolopacidae. Among the duck remains, those of species of the genus *Anas* are the most numerous (Figure 3). The diving ducks, of the genera *Aythya*, *Mergus*, etc. are less well represented. The Charadriidae are represented by the golden plover (*Pluvialis apricaria*). Several scolopacine birds were found in considerable numbers in Wijnaldum and/or Oosterbeintum, including redshank (*Tringa totanus*), ruff (*Philomachus pugnax*), black-tailed and/or bar-tailed godwit (*Limosa limosa/lapponica*), dunlin (*Calidris alpina*) and little and/or Temminck's stint (*Calidris minuta/Temminckii*). The dunlin and stint remains of Oosterbeintum were found in cremations. The bones themselves were calcined (Figure 4). The birds obviously played a role in the funerary rituals of the site (Prummel & Knol, 1991). The white-tailed eagle (*Haliaeetus albicilla*) has been identified in Wijnaldum, the red-throated diver (*Gavia stellata*) in Oosterbeintum. Bewick's swan (*Cygnus bewickii*) was found at both sites (Table 1: 2-3) (Prummel, 1991).

## Harlingen

In the cesspit of a well-to-do 17th-century family remains of domestic fowl, wild or domestic goose, domestic pigeon, several species of *Anas* ducks and golden plover have been found (Table 1: 4). It is interesting to remark that with this family domestic fowl obviously was not very popular, since in their cesspit the number of bones of domestic fowl was smaller than the total number of remains of the wild birds (Prummel, 1992).

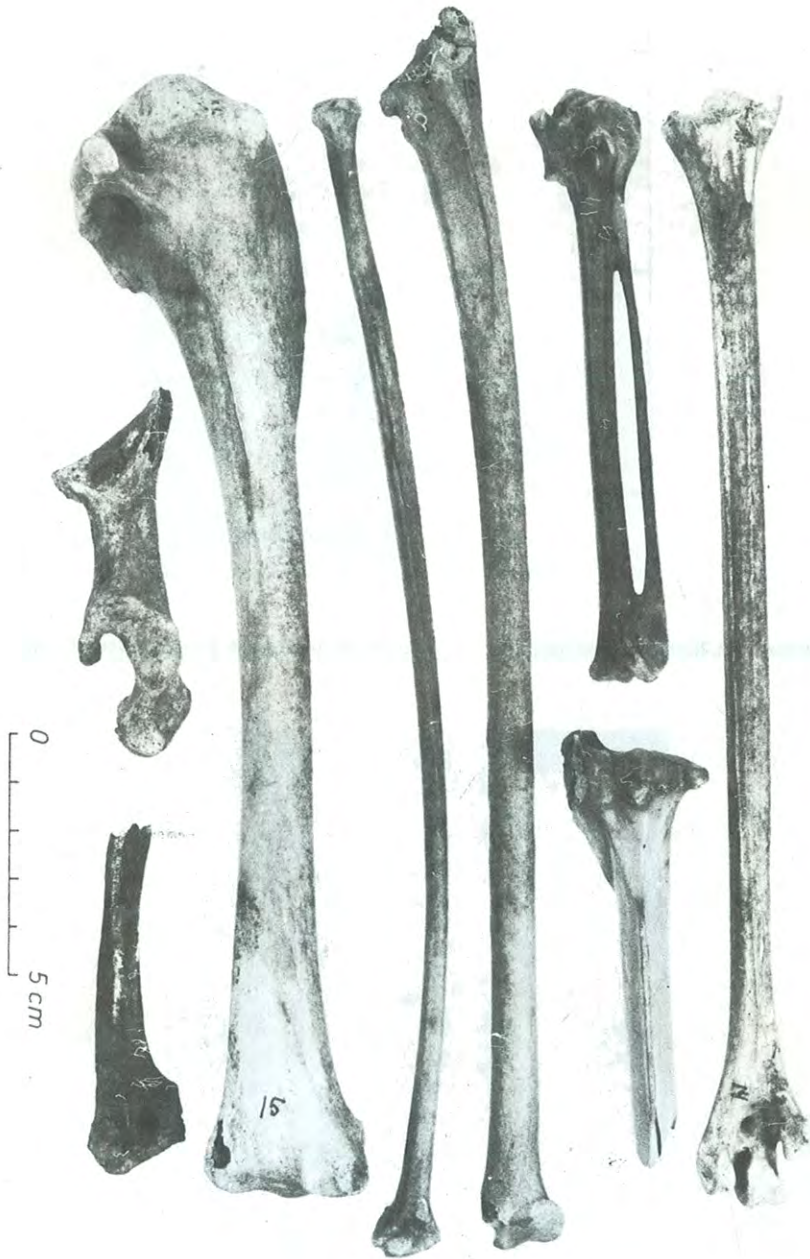


FIGURE 2 - Velsen 1, AD 15-30. Several bones of crane, *Grus grus* (photograph R.J. Kusters, Groningen). Scale 1:1.6.

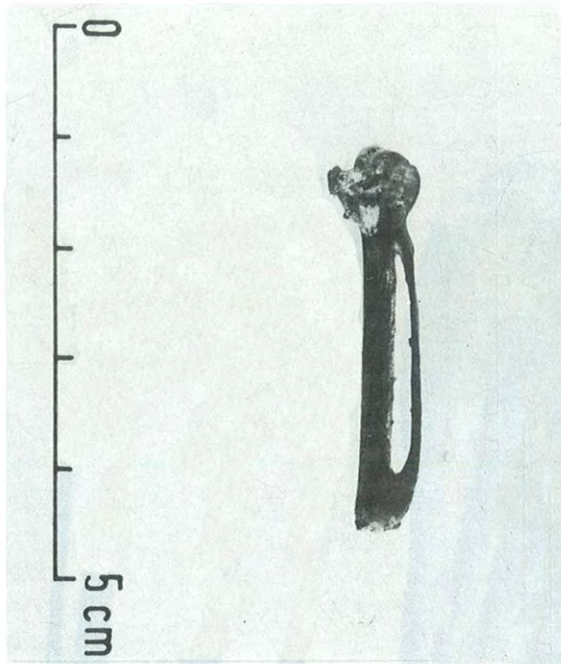


FIGURE 3 - Oosterbeintum. Right carpometacarpus of teal, *Anas crecca* (photograph R.J. van Ewyck, Groningen). Scale 2:1.

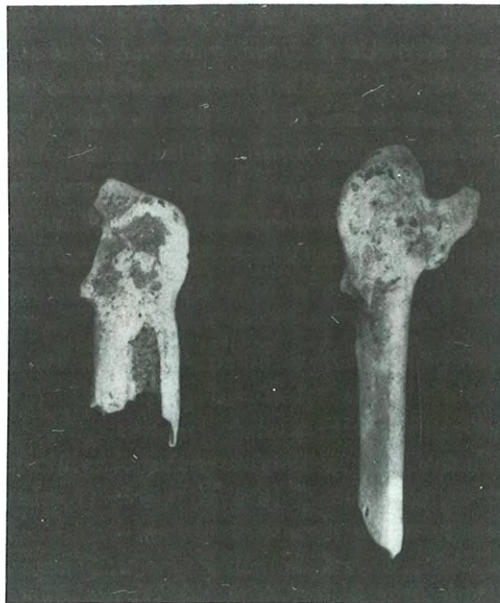


FIGURE 4 - Oosterbeintum. Calcined left and right carpometacarpus of little or Temminck's stint (*Calidris minuta/temminckii*) from a cremation urn (photograph R.J. van Ewyck, Groningen). Scale 5:1.

## DISCUSSION

## Velsen 1

Greylag goose, crane and black grouse will have been breeding birds of the peat-bogs and moorlands in the surroundings of the site in Roman times. Greylag goose and crane are at the present time passage migrants or winter visitors, while the black grouse is altogether absent from the area. In late medieval times these wet areas were reclaimed, destroying the habitats of these species. The white-tailed eagle was a breeding species along the coast of the Netherlands. The wood pigeon and the Turdidae will have been caught in the dunes. The long and varied list of species (Table 1: 1) reflects the variation in landscape.

## Wijnaldum, Oosterbeintum and Harlingen

Ducks and waders will have occurred in large densities along the Wadden Sea coast, on the tidal flats and on the salt marsh. Therefore it is not surprising that they are the most numerous wild bird species in Wijnaldum, Oosterbeintum and Harlingen. The area offered no breeding habitat for greylag goose, crane and black grouse. What makes these results interesting is that ducks and waders are nowadays caught in the area with fowling methods which, as historical evidence shows, have been in existence for at least several centuries.

*Anas* ducks are caught with duck decoys, which have been in use at least since the 14th century (Kear, 1990). A duck decoy, from the Dutch word *kooi* (cage), is a rectangular pond surrounded by forest. In a large area around the decoy noisy activities are prohibited. On the pond tame ducks swim around, which attract the migrating ducks that pass through in late summer and autumn. Four or more gradually narrowing ditches run from the corners of the pond, ending in traps. Along the ditches screens of reed are placed to hide the fowler. A small white-orange coloured dog (a special breed) lures the wild ducks to the end of the ditch, where they are caught in the trap. Only ducks of the genus *Anas* can be caught in these decoys. Several wading species may unintentionally be caught using duck decoys. A total of 2000 to 6500 ducks could be caught in a decoy yearly (Lebret, 1952; 1979). Several decoys are still in existence in the Netherlands for fowling and others for ringing. The silence area is important for wildlife in general.

The *Anas* ducks consumed in the 17th century house in Harlingen were definitely caught in decoys along the Frisian coasts or on the Wadden Sea islands in the North of the Netherlands. Maybe the same constructions or more simple predecessors were used to catch ducks in Wijnaldum and Oosterbeintum.

Golden plover was caught on a large scale in the North of the Netherlands at least since the 16th century (Eenshuistra, 1973). The fowler uses a single 20-m-long net, that initially lies flat on the ground. Decoy golden plovers and lapwings, apparently searching for food, are placed before and behind the net. A living golden plover is placed on a little seesaw. With a flute the fowler attracts the plovers from the air. When the plovers land the fowler pulls the net up and lets it fall across them. Some birds are caught, others escape (a video of this fowling method has been shown at the conference). In the last three centuries many golden plovers were exported to England and France (Eenshuistra, 1973). This fowling method is still in use for ringing birds (Jukema, 1991).

Other waders such as lapwing (*Vanellus vanellus*), grey plover (*Pluvialis squatarola*), snipe (*Gallinago gallinago*), curlew (*Numenius arquata*), godwit (*Limosa* sp.), several shanks

(Tringa-species), dunlin (*Calidris alpina*), knot (*Calidris canutus*) and ruff (*Philomachus pugnax*) are caught using this fowling method as well. Several of these bird species have been identified in Wijnaldum and Oosterbeintum. They may have been caught together with golden plovers. In historical times the golden plovers were considered as the most palatable and valuable catch of this fowling method. This will explain why only the golden plover is represented in the 17th-century Harlingen cesspit of a well-to-do family. The golden plovers from Harlingen were definitely caught in this way. The same or more primitive types of nets will have been used on the high salt marsh in Roman and early medieval times to catch the golden plovers and other waders.

Longitudinal, fixed, standing nets of 15-20 m length and ca 1.7 m height, placed above the tidal flat, were used along the Frisian coast in the last few centuries to catch dunlin (*Calidris alpina*), Temminck's and little stint (*Calidris temminckii* and *minuta*). Birds that land to forage on the tidal flats get entangled in these nets. Apart from dunlin and stints, curlew, lapwing, grey plover, gulls and even ducks and geese could be caught with these standing nets. Since 1912 the method is prohibited in the Netherlands (Eenshuistra, 1948). The scolopacine birds found in Wijnaldum and Oosterbeintum may have been caught in this way.

### CONCLUSION

The wild bird remains found at four sites along the west and north coast of the Netherlands from the 1st to the 17th century represent mainly bird species that will have been rather abundant and that will have been considered palatable. Greylag goose, crane, black grouse and white-tailed eagle will have been breeding birds along the coast in Roman times. The bird remains demonstrate that fowling methods, such as duck decoys, plover nets and standing nets, that were used in this area in the last few centuries either were used already in Roman or early medieval times, or had more simple predecessors in this area.

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