

The Pied Avocet – successful measures taken*

DE: Säbelschnäbler

DK: Klyde

SE: Skärfläcka

*P-G Bentz, Lennart Karlsson, Mikael Kristersson & Göran Walinder
(Falsterbo Bird Observatory, Fyren, SE-239 40 Falsterbo)*

The Pied Avocet *Recurvirostra avosetta*, an indicator species in one of the reference sites (Vellinge, SW Sweden) within EU's LIFE-project BaltCoast, has had bad reproduction for many years at Landgren's holme in Skanör. Extensive predation has caused heavy losses of eggs and chicks, and dramatic changes in water level have prevented the birds from breeding. In 2008 crucial measures were taken to support the breeding colony.

The Pied Avocet *Recurvirostra avosetta* is still quite a rare species in Sweden and the breeding population does not exceed 1500 pairs. It is regarded as an endangered species due to its very specific habitat demands at the breeding sites as well as in the wintering areas. According to estimates one third of the Swedish population breeds in Vellinge today. In 1994 a colony settled on the small islet Landgren's holme in the Flommen nature reserve in the western part of the Falsterbo peninsula (Figure 1 & 2). Immediately it became a public attraction as the family life of the Pied Avocet could easily be studied from the former railway embankment in Skanör without disturbing the birds.

The number of pairs has varied from year to year as well as the breeding success as described by Walinder & Karlsson (2003, 2004) and Bentz et al. (2007). In 2002 more than 100 clutches hatched and approximately 350 small chicks were seen on the islet. One third of these were supposed to have reached fully-fledged stage. In 2003 only 12 out of 136 clutches hatched due to predation. Since 2004 the breeding of the Pied Avocet at Landgren's holme has been a more or less a total failure with very few, if any, fully-fledged juveniles. The reasons for this have been found to be predation (mainly from Red Foxes, Badgers and Western Jackdaws), extensive changes in water level (surrounding water in connection with the

sea) and disturbance (people and free-running dogs). In order to protect the Pied Avocet it was decided to take some crucial measures before the breeding season 2008 started.



Adult Pied Avocet. Photo: P-G Bentz/Sturnus.

Predation and electric fences

In 2007 an electric fence, 4 km long, was put up around the breeding area including the pasture with grazing cattle. The fence was equipped with double electric wires, 15 and 50 cm

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Figure 1. Landgren's holme with the Falsterbo lighthouse in the background. Photo: P-G Bentz/Sturnus.

above the ground. The voltage was 6000 V. The grass under the wires had to be cut short in order to prevent short-circuits. All the same, the electricity was cut off on a few occasions for unknown reasons. The electric fence in

combination with a provisional dam (see below) proved to be insufficient to keep predators away from the colony, mainly because of the water breaking through the dam and thus more or less emptying the lagoon, making the islet accessible to four-legged predators.

In early 2008, well before the start of the Pied Avocet's breeding season, the electric fence was improved and the checking routines were changed. On stretches where the fence crossed water the lower wire was elevated to run well above the water surface in order to avoid short-circuits. The grass below the lower wire was regularly cut very short for the same reason and the voltage was checked every day.

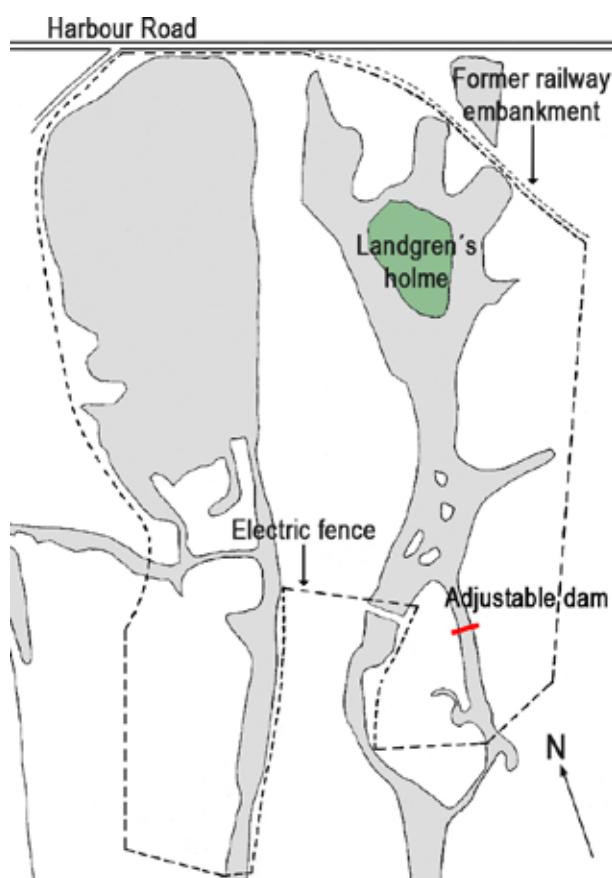


Figure 2. The breeding area in Skanör. (After Walinder et al. 2003).

Changes in water level and an adjustable dam

Floods have occasionally caused damage to the breeding colony as eggs have been washed away. But the most important negative influence on the breeding success has been low water levels which make the islet accessible to four-legged predators as mentioned above.

The water surrounding Landgren's holme is connected to the sea through a system of lagoons and narrow channels and thus fluctuates according to changes in the sea level. Low water levels occur quite often in April when the Pied Avocets arrive at the site and start breeding.



Figure 3. The permanent dam is adjustable. Photo: P-G Bentz/Sturnus.

On such occasions the birds simply leave the area. Sometimes they come back later and take up egg-laying when the water level rises. Apparently this behaviour is an adaption to or at least a consequence of the threat from four-legged predators.

In 2005–2007 efforts were made to keep a stable water level around Landgren's holme by constructing provisional dams at the two narrow water channels connecting the water surrounding the islet with the sea. Unfortunately the water broke through and the undesired fluctuations in water level continued, opening up the breeding colony to four-legged predators. Apparently the electric fence alone was not efficient to prevent predators from foraging on the islet.

In order definitely to stabilize the water level around the islet in 2008, a permanent dam was constructed at one of the two connecting channels (Figure 3) while the other was filled up and closed with sand.

The permanent dam construction is adjustable so that the water level can be controlled in a way which is advantageous to the breeding colony. The dam was built of high quality oak board and will hopefully last for many years.

Disturbance and grazing cattle

Disturbances have caused limited losses of clutches in some breeding seasons. In

connection with predation from foxes and badgers the disturbance is considerable also to the pairs which do not suffer direct losses and some breeding birds abandon the eggs and leave the area.



Figure 4. Information signs. Photo: P-G Bentz/Sturnus.

Except for typical predators looking for eggs and chicks, disturbances were also caused by free-running dogs and senseless humans. Dogs have been observed running across the islet on some occasions and footprints in the mud have been registered from time to time. Curious people have approached the islet in order to get a closer look at the birds and families looking for a picnic site have been seen on the islet in the breeding season. Signs have been put up to inform the public about the Pied Avocet colony and how vulnerable it is to disturbance (Figure 4). The public has also been informed that the Pied Avocet's family life can easily be observed from the former railway embankment just outside the nature reserve without disturbing the birds.

Free-running dogs seem to be a minor problem today, probably as a consequence of the intense information campaign that has been launched.

The presence of cattle is most important to avoid disturbance to the breeding colony. In 2008 young heifers and bulls (27 individuals altogether) were grazing within the fenced area. Apparently the cattle prevented people from approaching the breeding colony on the islet. Thus the role of the cattle in relation to the Pied Avocet colony is a double one – preventing disturbance from people and

keeping the vegetation at a suitable height for the breeding birds.

Successful measures and a good breeding season

The breeding of the Pied Avocet in 2008 was studied very closely from two hides on the islet, one of which was dug in the ground to provide for "low level studies" (Figure 5).

Nearly all of the 98 breeding pairs (Figure 6) had 2–4 chicks. No four-legged predators were seen on the islet due to the stable water level and the electric fence. However, foxes were seen trotting along the fence outside the enclosure. Apparently they are very sensitive to the electricity as they did not get any closer to the fence than 3–4 metres. Thus the combination of an electric fence and a permanent dam to stabilize the water level turned out to be a positive combination to support the breeding Pied Avocets in the area.

The large number of breeding Pied Avocets apparently had a frightening effect on Corvids as no Hooded Crows or Western Jackdaws approached the colony. Some Common Redshanks, Northern Lapwings, Eurasian Oystercatchers and Common Ringed Plovers took advantage of the collective defence effect



Figure 5. The hide for "low level studies" of the Pied Avocet on Landgren's holme. Photo: P-G Bentz/Sturnus.

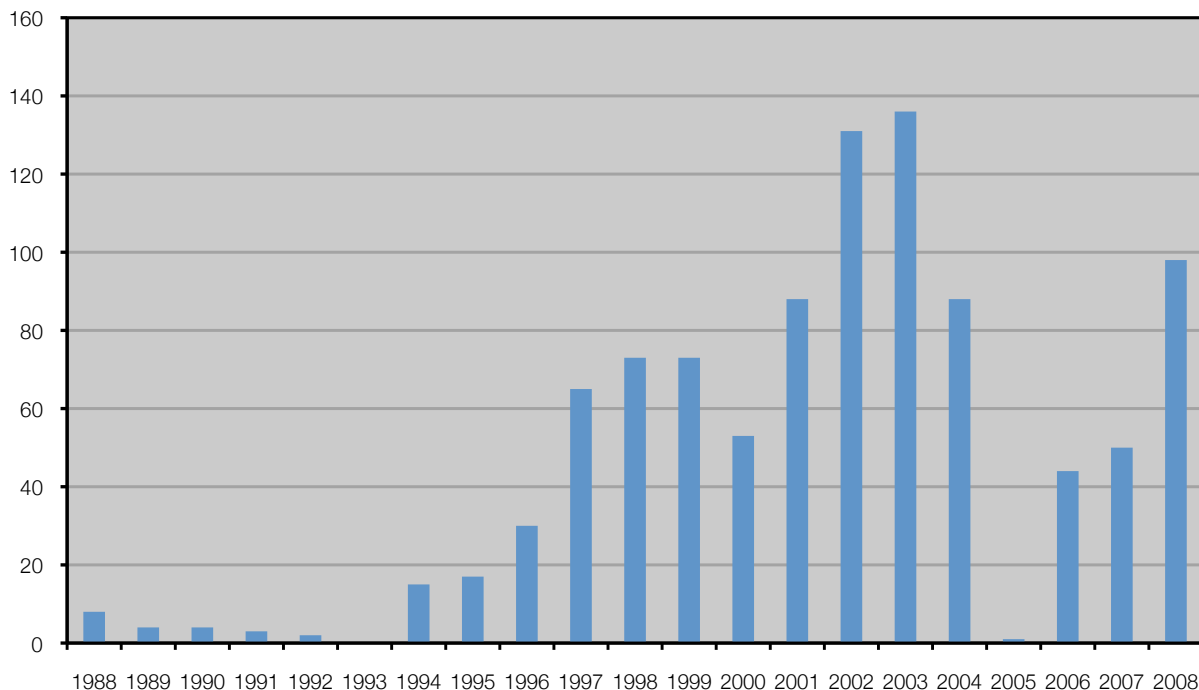


Figure 6. Number of breeding Pied Avocet pairs in the Flommen nature reserve in the period 1988–2008.

of the Avocet colony and bred successfully on the islet.

In 2008 egg-laying started around 20th April. Most eggs hatched in the second half of May. Very soon after that the adult birds with chicks dispersed over the western parts of the Falsterbo peninsula. Some late breeders were left behind and by the end of the breeding season Western

Jackdaws appeared on stage and predated newly-hatched chicks as the adult bird was still incubating unhatched eggs (it takes 5–15 hours for the whole clutch to hatch). Apparently the collective defence did not function at this late stage of the breeding season since most Pied Avocets had left the islet to forage elsewhere with their chicks.



Figure 7. Cattle and Pied Avocets go on very well together. Photo: P-G Bentz/Sturnus.

However, trampling by cattle has been mentioned as a crucial factor for destruction of nests. This may be a problem, especially when young cattle are set free in spring after a long winter stay indoors. They go all skittish and run over the meadows in all directions and trampling on waders' nests may occur. After a few days outdoors the flock settles down and its unconscious service as a deterrent to humans and dogs may start. To reduce the destructive trampling of cattle just after the spring release the cattle keeper in Skanör lets the flock get used to outdoor life in a paddock nearby for a few days before being let into the nature reserve, its final summer destination.

From the hides the movements of the cattle flock across the islet have been studied (Figure 7). At the very first contact with the cattle the Pied Avocets were very upset and reacted with collective diverting behaviour by feigning an injured wing to lead the cattle away from the nests. Later close contact with the cattle did not cause any apparent reaction from the birds. They seemed very relaxed and remained on their nests incubating.

In 2008 the Pied Avocets had very good reproduction results on Landgren's holme in Skanör. It has been estimated that more than 100 chicks reached fully-fledged stage. According to the weekly bird counts around the Falsterbo peninsula 847 Pied Avocets were seen on 26 June. Many of these birds were recently fully-fledged juveniles apparently from the local breeding population. The measures taken had proved very successful.

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