

# Provision of nest cages to reduce predation of little ringed plovers *Charadrius dubius* at Kingfishers Bridge, Cambridgeshire, England

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## SUMMARY

At a nature reserve in eastern England, over two breeding seasons wire mesh cages were placed over the nests of two pairs of little ringed plovers *Charadrius dubius* to protect their eggs from predation. The birds continued incubating their eggs, and subsequently no eggs protected by the cage were predated.

## BACKGROUND

Since 1995 the Kingfishers Bridge Project has transformed 61 ha of arable farmland in East Anglia into a mosaic of wetland wildlife habitats. In addition to other conservation initiatives, areas of shingle have been provided to create nesting habitat for little ringed plovers *Charadrius dubius* (Fig. 1). Little ringed plovers are small ground nesting birds, and although their eggs are well camouflaged they are vulnerable to predation.

At Welney Wildfowl and Wetland Trust Reserve (also in eastern England) the nests of little ringed plovers are effectively protected from predators using nest cages. The wet grassland at Welney is not classic habitat for this species, yet with habitat enhancement and the use of cages, the number of nesting pairs gradually increased and fledging rates greatly improved (Gulickx & Kemp 2007).

In an attempt to enhance the breeding success of little ringed plovers at Kingfishers Bridge, nests were protected with the same type of cages as used at Welney.



**Figure 1.** Shingle island in the wet grassland at Kingfishers Bridge.

## ACTION

**Study site:** At Kingfishers Bridge in Cambridgeshire, eastern England, breeding sites for little ringed plovers were created within 4 ha of wet grassland by creating islands of shingle (Gulickx *et al. in prep*).

**Nest cage:** In both 2004 and 2005, a single little ringed plover pair nested and the nest was protected with a wire mesh cage. The cage (61 cm wide x 61 cm long x 30.5 cm high) was

made entirely of strong sheets of 5 cm square-meshed wire (Fig. 2).



**Figure 2.** Nest cage made of 5 cm square-meshed wire. The cages were secured to the ground using two u-shaped metal rods at opposite corners of the cage.

Two holes were made on each of the four sides of the cage to allow a quick exit/entry for the incubating bird in any direction, if required. Each hole was 10 cm high x 5 cm wide and created by simply snipping off a single 5 cm length of cross piece wire at a height of 5 cm from the ground. The holes were normally situated at either 10 or 15 cm from the corners. At Welney such entrance holes have been shown to effectively prohibit entry of the main potential predators e.g. red fox *Vulpes vulpes*, although stoats *Mustela erminea*, weasels *M. nivalis*, and even small American mink *M. vison* could still feasibly enter, although they have not been observed to do so. The birds can pass through the 5 cm mesh but observations at Welney indicate that the birds prefer the enlarged holes (Gulickx & Kemp 2007). The cage was secured to the ground using two metal concrete-reinforcing rods, bent into a U-shape and driven into the substrate at opposite corners of the cage.

**Positioning of cages:** A cautious approach was initially used at Welney. Cages were first placed about 2 m from a nest for 24 h before moving into their final position over the nest.

However, it was found that birds would accept cages placed directly over their nests as soon as they were located, often returning to incubate their eggs within a few minutes (Gulickx & Kemp 2007). Therefore, at Kingfishers Bridge the cages were placed straight over the nests, and likewise birds returned within a few minutes to resume incubation. In 2004, the cage was placed whilst the clutch was still incomplete. In 2005, the clutch was already complete when the nest was discovered and then, subsequently caged.

## CONSEQUENCES

Both pairs of little ringed plovers continued to incubate their eggs when the protective cage was installed over the nest. In both cases the clutch size was four and all the eggs successfully hatched. In 2004, two chicks were fledged. In 2005, all four young survived to fledging. In 2006, although two little ringed plover pairs were seen in April no nests were discovered.

**Conclusions:** At Kingfishers Bridge, of the two little ringed plover nests that were protected with a cage, the adults continued to incubate the eggs and the eggs successfully hatched in both cases. No eggs were predated.

## REFERENCES

- Gulickx M.M.C., Beecroft R. & Green A. (*in prep.*) Providing nesting substrate for breeding waders at Kingfishers Bridge, Cambridgeshire, England.
- Gulickx M.M.C. & Kemp J.B. (2007) Provision of nest cages to reduce predation of breeding little ringed plover *Charadrius dubius* at Welney, Norfolk, England. *Conservation Evidence*, 4, 30-32.