ALTERNATIVE WADER CATCHING

Introduction

Most full-grown waders are caught using cannon-nets or multi-shelf mist nets. Both are specialized techniques, best suited to group efforts where there are large numbers of waders. In 1974 the Oxford Expedition to Varangerfjord (a large fjord in north east Norway; see WSG Bulletin 13) had to find alternatives; the expertise and equipment for cannon-netting were not available, and multi-shelf mist nets are not effective in the arctic twilight. So, walk-in traps, single-shelf mist nets and clap-nets were used; over 3,000 captures were made by four people in a month, and, on one occasion 286 birds were caught in twelve hours; there must be many sites in Britain where these techniques could be used to advantage. Our experiences show that they certainly are not outdated, but are simply suited to different circumstances to the two major catching methods. We hope to convey some of the experience gained from intensive use of the three methods described, and enable wader ringers to catch more birds more safely.

Walk-in traps

a) Construction: two designs of traps were used: the "Ottenby" and "Revtangen", named after their sites of origin in Scandinavia. The former will be described in detail, as we found it to be the more efficient of the two. 'Twilweld' galvanized wire netting (2.5 x 1.3 cm mesh) was used. This netting has its own rigidity, so a frame is not essential.

The Ottenby is rectangular, with two slightly curved entrance funnels, one on each of the two long sides, and offset from each other (see diagram). On the two shorter sides smaller gathering cages are attached, with hinged lids for extracting birds. The main cage of our traps were 120 cm long, by 60 cm wide, and 45 cm high, but the size of the trap could undoubtedly be reduced, at least to 90 cm by 45 cm by 30 cm. The gathering cages were about 25 cm long, 18 cm wide and 20 cm high.

The roof of the trap is a single piece of netting, and the main walls two pieces. The ends of these two pieces are curved inwards to form the entrance funnels. The parts are sewn together with a suitable gauge wire, and even with our large traps the resulting structure was quite strong; if a trap gets a bit squashed it can be moulded back into shape. However, the strength could be increased by sewing a straight piece of thicker wire into the seam along each edge, and the traps used at Ottenby Bird Observatory have a wire netting floor which increases their strength and durability.

The gathering cages are attached to 18 cm x 20 cm openings cut out of either end of the main cage. They are built on the same principle as the main cage with small funnels of their own. The half of the roof furthest from the main cage is removed and a hinged lid attached to cover the opening. This lid must be held closed with a hook, or the occupants will be able to escape. It is possible to cut the gathering cage from a single piece of netting, with a second piece for the lid.

The funnels should be set surprisingly narrow, as birds will literally force their way in; a gap of 1.9 cm to 2.5 cm is right for Dunlin, and only 0.6 to 1.2 cm extra is needed for Ruff. We did not secure the funnels to the roof, but reset the gap each time we repositioned the traps. Spiky ends were not left on the netting, except on the bottom of the walls, where they could be dug into the substrate to hold the trap in position.

The differing widths of the main and gathering cages makes the traps awkward to handle. The modern design of the trap used at Ottenby B O has the width and height of the main trap reduced a little, while those of the gathering cages are increased, so that

these dimensions are the same for the two cages. The resultant trap is box-shaped with no projections, and is easier to store and make (see sketch).

b) Principles of Operation: the trap works on the principle of a maze. Feeding waders are chanelled towards the trap by 15 cm to 23 cm high wire netting guide walls; these are essential to efficient catching. The birds easily find their way in through the entrance funnels, but because the funnels are curved and offset from each other the birds inside the trap cannot see straight out of a funnel (c.f. duck decoys). Nor is it possible for a bird to walk in through a funnel on one side and straight out of the other (which did happen with the Revtangen.). The birds search around inside the trap and eventually end up in the gathering cages, having made their way through the funnels on these.

c) Siting: one of the biggest problems with wader trapping is finding a good site, ideally a feeding area which is not regularly flooded. In Norway, we initially trapped on an area of semi-tidal pools through which a river flowed; good feeding conditions were maintained by flooding by the sea at spring tides, at which times the traps could not be used. Later, the traps were set at a drinking and bathing place, and on vast mounds of rotting kelp heaped above the normal tide-line by a storm combined with spring tides. Traps are best set in groups, interconnected with guide walls, but single Ottenbies can be used effectively on the waters edge (in non-tidal waters) with the long axis parallel to the shore, and guide walls extending up and down the beach (see sketch). The floor of the main cage may be wet, or even have water to a depth of a few millimetres, but it is imperative that the floor of the gathering cage is not wet, or the birds will get damp surprisingly quickly. We found that several handfulls of sand in the bottom of the gathering cage prevented this.

d) Operating: traps are extremely safe to operate; conditions can be closely controlled and the problem of over-catching does not occur as birds can easily be released by opening the trap, thus making the technique ideal for single ringers. In good weather it was found that traps could be left as long as four hours between emptying. This does not mean that they can be left unattended that long, and they should be emptied more frequently in wet or windy weather or if many birds are caught. Birds do not become agitated until a person approached the trap, and will continue feeding inside, apparently unaware that they have been trapped. When waders are approached they usually walk to the opposite end of the trap and can be coaxed into the gathering cage in this way. Passerines, on the other hand, tend to flap around and if they cannot be persuaded into a gathering cage quickly it is better to release them. Some birds, particularly Snipe, are less calm in traps, and tend to abrade their head plumage by jumping repeatedly. If you are likely to catch this species the traps should be emptied regularly, and also, as suggested to us by Nigel Clarke, the roof can be made of a softer material, such as fine mesh terylene or plastic netting.

It is important to remember that birds in traps are vulnerable to human and animal predation. We had trouble with a Merlin which killed a Dunlin through the wire when it crowded into the 'V' shaped space between the funnel and side of the gathering cage; baffles fitted over this spot solved the problem. Dogs, people and especially children also pose a threat, so traps should be kept under observation from a distance.

If a trap is out of action for any reason, the two main funnels can be closed by pulling one side of each of the funnels to the outside of the trap, and the lids of the gathering cages fixed open. Alternatively the whole trap can be turned upside down, provided, of course, that it does not have a sewn-in base.

e) Ottenby versus Revtangen design: the Ottenby proved to be a better design than the Revtangen, the latter being triangular with a funnel in the centre of each side, and a single gathering cage at one corner. Whiltst the curved and offset funnels of the Ottenby held birds well, waders tended to walk straight through the Revtangens and out of an opposite funnel. Permanant gathering cages were not initially fitted to the Revtangens, which also resulted in escapes. The funnels had to be made and sewn in separately, as they were only half the height of the trap, and the triangular shape resulted in nasty edges to sew, and made the traps more difficult to store and transport.

A great deal can be discovered about the effectiveness of a trap by watching the behaviour of birds from a distance; whether it is designed well, sited correctly, and the funnels set at the correct width.

Single-shelf Mist Netting

During August we caught 1,600 birds in eight nets, a total length of under 100 metres. In the conditions there, from a few hours twilight at the end of July to five hours darkness each night at the end of August, this technique proved highly effective. The nets were made up from loose netting and tethered on the bottom shelf string. The nets were set on four foot (1.2 m) poles, and even long lines were easily set by one person.

Mist nets were often used in the same places as traps. Because the nets are not tall even slight rises in the ground can be exploited to provide backgrounds for the nets, and in some of these sites nets were effective even in broad daylight; Ruff were caught coming in to feed in a marshy depression surrounded by a metre-high bank. Multi-shelf nets, on the other hand, were not effective even when it became quite dark at the end of August.

Usually single-shelf mist nets are most successful when set at right angles to a shore, but we found that we caught many birds with the nets set parallel to the shore, but seaward to the feeding area, from which the birds were disturbed into the nets.

Nets were set as low as possible, and in general over dry ground. We found that large birds, like male Ruff, often did not become enmeshed and simply bounced out of the nets; setting the nets so that the pockets were much deeper alleviated this but of course reduced the catching area of the net. The largest birds we caught were Bar-tailed Godwits, Oystercatchers invariably bounced and most of our catch were Dunlins.

Single-shelf mist netting can be used wherever it is too light for multi-shelf nets; Ian Forsyth is using them successfully where city lights make multi-shelf netting impossible.

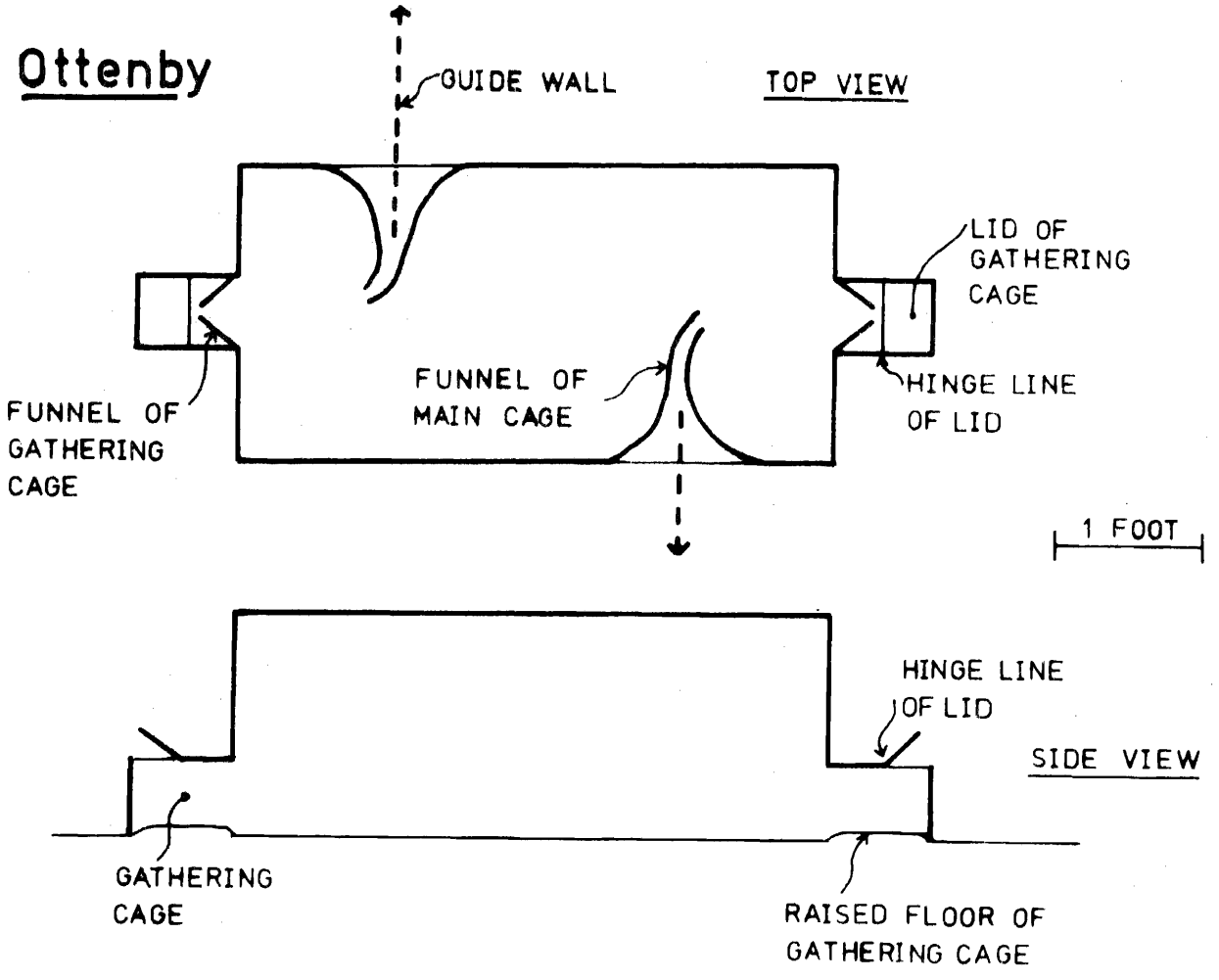
Clap-netting

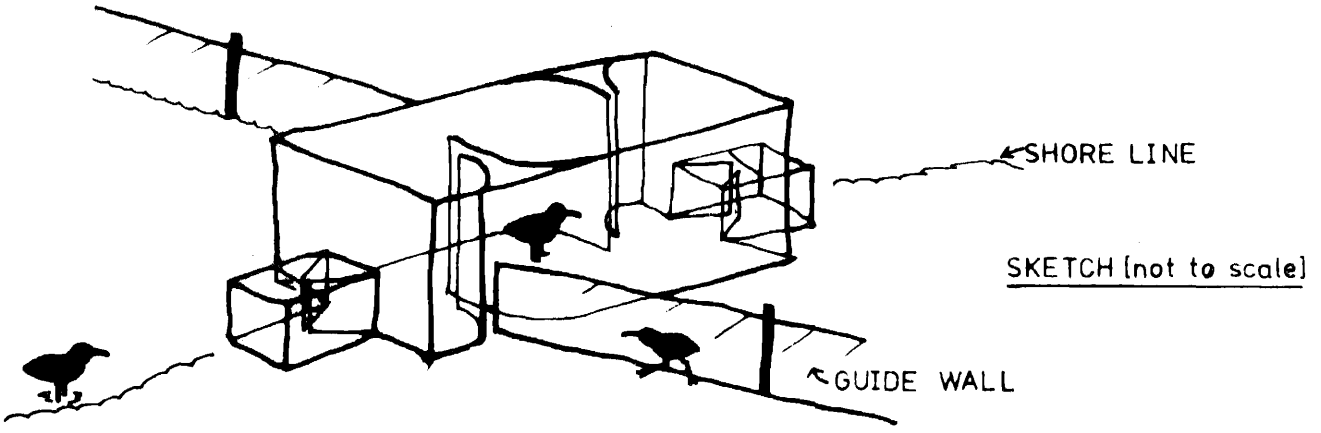
The nets we used had poles at both ends and were elastic powered. The tensioned elastic made the nets very fast but also potentially dangerous and great care must be taken. We do not intend to detail their construction, as clap-netting is best learnt from someone who knows how.

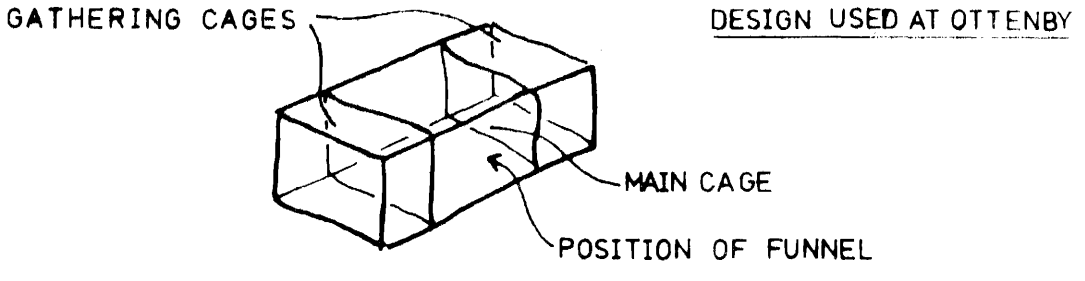
We caught nearly 400 birds on a tidal beach, but rarely more than three birds in one 'pull'. The nets were set on the tide-line, where birds fed on the tidalwrack all the time, or lower on the beach to catch feeding birds as they were forced up the beach by the tide. Catching on the rising tide was a matter of chance; there was only about a quarter of an hour when the tide was at the right height to keep birds in the catching area before the nets were washed out and had to be moved. However, frequently more than one catch was possible before this happened.

Clap-netting is hard work, but has certain advantages. It is highly selective, one can wait for a particular bird while others move in and out of the catching area. The fact that Curlew Sandpipers skirted the catching areas while Dunlin wandered amongst

Ottenby


GUIDE WALL
TOP VIEW
LID OF GATHERING CAGE
FUNNEL OF MAIN CAGE
HINGE LINE OF LID
FUNNEL OF GATHERING CAGE
1 FOOT
HINGE LINE OF LID
SIDE VIEW
GATHERING CAGE
RAISED FLOOR OF GATHERING CAGE


SHORE LINE
SKETCH (not to scale)
GUIDE WALL


GATHERING CAGES
DESIGN USED AT OTTENBY
MAIN CAGE
POSITION OF FUNNEL

our markers with gay abandon was just one of the frustrations attached to clap-netting. The second advantage was that clap-nets could be used in bad weather. In a four day gale, when traps were out of operation, and mist nets would not stand up, let alone catch, it was possible to continue clap-netting throughout.

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INSTRUCTIONS FOR THE CONSTRUCTION OF BOXES SUITABLE FOR THE KEEPING OF WADERS

designed by Jack Sheldon, text by Anthony Williams

These instructions should be used in conjunction with examination of the diagram of a completed box.

(Measurements are given here in feet and inches as materials are still commonly supplied in this way in Britain. Overseas readers may like to note that 1 inch = 2.5 cm, 1 foot = 30.5 cm, approximately.)

Materials required

Plywood	:-	1 sheet (2 ft x 4 ft) of 3/8 inch Outdoor Ply.
1 in. x 1 in. timber	:-	This is probably not available, but there is a metric equivalent which is slightly smaller but is as good for the job. It is usually available in 6 ft lengths which is suitable as 5 ft 4 in. is needed for each box made.
Aluminium Strip	:-	1 inch wide. As far as I know it can only be bought in 6 ft lengths. Four strips are required for each box, the length depending on the height required for each box. (The large box I made had 16 in. strips, the small ones 9 in. strips).
Bolts, Wing nuts and washers	:-	For each box, four $\frac{3}{8}$ in. hexagonal headed bolts either 5 in. or 6 in. long. With these are required four of the respective sized Wing nuts and 8 washers.
Hop sack	:-	Choose one of medium thickness and of dark material. The sack should obviously have as few holes in as possible.
Varnish	:-	Any outdoor wood varnish, i.e. the cheapest.
Screws & Nails	:-	All screws should be steel, brass ones are not strong enough.
		12 x 1 inch screws.
		10 screws for the lid, size depends on the thickness of wood used for making the runners, see notes in assembly instructions.
		8 x 1 inch nails (panel pins).

Tools required

The only tools required that might not be found in the ordinary household tool kit (if such a thing exists) are:-

:- a $\frac{3}{8}$ in. bit and a bit the size of the panel pins to be used, both must be able to drill metal.