Wader mist nets, by Rob Robinson

It is much easier to set nets in daylight, and at low tide, but this requires someone to stay and watch the nets until dusk. The nets are set high and with plenty of pocket.

Mist-netting coastal waders

Many coastal waders breed in habitat that is under considerable threat, be it from development, saltmarsh accretion or global warming. Long-term monitoring of waders is essential if we are to understand their changing needs over the coming decades. This article is the first in a two-part series looking at how to mist-net waders. In this first part, Nigel Clark of the Wash Wader Ringing Group shares his experiences of catching waders in coastal habitats.

LOCATION, LOCATION, LOCATION

Waders can be caught effectively in three types of locations:

i) across shallow channels or pools that are covered at high tide, although this needs to be done with extreme care and a very good knowledge of the rate at which the tide comes in;

ii) along the edge of saltmarsh with lines of nets set at right angles to the edge of the saltmarsh. This is only safe and effective when high tide reaches the edge of the saltmarsh, but doesn't cover. Again an extremely good knowledge of the local conditions is important for these sites;

iii) over pools on saltmarshes, particularly if the saltmarsh is grazed so that there is a very short sward suitable for birds to roost on. The pools do not need to be very large; as many as 50 birds can be caught in a single net over a pool that is only 10 m across. The best pools are those nearest to the outer (seaward) edge of the saltmarsh which are shallow enough for birds to land, either in the pool or on the muddy fringes. Waders fly low over these pools at night, but over the open saltmarsh they fly too high to be mist-netted successfully.

Setting nets at right angles to the wind direction, but with the net set largely over water, is generally most successfully, as birds tend to circle over the marsh and then reduce speed whilst flying into the wind as they descend over the pool.

CHOOSING NETS

When mist-netting waders, a large number of heavy birds may be caught at once and it is vital that the nets do not sag into water if this happens. Using nets no longer than 12 m in length, set with the bottom shelf at least 1.5 m above the water, should prevent this, although some ringers use longer nets with a support in the middle. In order to generate enough tension on the nets, and to minimise the risk of shelf strings breaking under high tension, nets should have braided, rather than twisted (stretchy), shelf strings. Larger-mesh nets (38 mm stretched, 19 mm knot-to-knot) work best, as birds are more likely to be caught, rather than 'bouncing'. Two- or three-shelf nets with plenty of pocket are ideal. If there is a lot of ambient light from nearby towns etc., less-visible, single-shelf nets can prove much more effective.

SETTING NETS

When setting a line of nets, best practice is to have three guys on each end of the line and one on each intervening pole. The multiple guys at each end of the pole provide very good tension and ensure that the nets do not collapse if one guy gives way. The middle of the three guys is set in line with the nets and should be tied near the top of the pole, with the other two tied lower and at 25–30° to the pole. Using substantial wooden pegs, about 600–700 mm long, to which the guys are attached before being hammered into the ground, will help to maintain tension and prevent the pegs coming out of the ground.

Health and safety

Saltmarshes can be dangerous places, especially at night. Even when you know a marsh well, it is easy to fall in a creek or to become disorientated if fog descends. The following tips should help to minimise risks:

- No one should go out on a marsh on their own at night.
- Walk in single file so that only one person is likely to fall into a creek, and there is someone following who can help them out.
- Carry furling sticks or prodders to help with balance and to check for the presence and depth of creeks.
- If there are any creeks that have to be crossed to get to the catching site, it is important to leave a mist net pole or other marker in place to identify the crossing points should the tide come higher than expected and cover the marsh.
- Always be wary of weather conditions and the potential for surge tides, especially in the aftermath of severe storms. In the worst-case scenario, the tide may completely cover a marsh and, in doing so, hide the visual markers (creeks, causeways) that guide your route off. This may result in you having to wait on the marsh for the tide to recede. There are a number of very useful websites that give tidal ranges and predictions for much of the UK, including one that predicts storm surges (**www.ntslf.org/storm-surges/surge-forecast**).
- Always carry two-way radios or mobile phones and a powerful torch for security should the unexpected happen.
- Be cautious until you know the site well; use only a few nets on the first catching attempt at a new site. When you know the site better, the number of nets set should be appropriate to the size and experience of the team.

In order to stop the nets from sagging while being put up, the guys on the intermediate poles should be set in the direction of the line to maintain tension. When the nets are up the guys should be moved to lie at 90° to the netline, in alternating directions from the nets; a slight zig-zag can also be introduced to the line of nets to help maintain stability.

CATCHING

When catching in a tidal situation, birds may arrive on the site two hours before high tide; it is therefore best to have the nets set by about three hours before high tide. For this reason, it is rarely successful catching on high tides that are less than two hours after sunset. Catching can be effective if high tide is just after dawn, however, as the majority of the catching will happen whilst it is still dark. On most sites, few birds are caught after high tide, so nets can be taken down once the birds have been extracted at high tide. Waders do not feed over high tide but should be released within four hours of capture. The best tides to catch on are those where the saltmarsh doesn't quite cover (or only just covers) and when the moon has not risen by high tide, or when it is around new moon.

On some sites birds will naturally come to the pools, but playing recordings of wader flocks will greatly increase the catch; Redshank calls seem to work particularly well on The Wash. Recordings of mixed wader flocks are available to download from the ringers-only pages of the website. Putting the recording on two hours before high tide, as long as it is fully dark, is usually ideal. Unless absolutely necessary, it is best to avoid using torches on a marsh as this could put off other birds coming in and affect night vision. However, if the catch is larger than anticipated, first turn off any sound recordings and, to prevent any more birds being caught, hang lit torches from the nets.

Birds will often come in to pools in flocks and so it is a good idea to have a team of people located close to the nets at all times who can extract birds as they are caught. Extracting waders from nets is rather different to extracting passerines and requires considerable skill as birds are often carpalled (particularly in windier conditions), requiring the wing to be drawn through the net. Never hold waders by the legs when extracting, or at any other time, as they are subject to capture myopathy (known as 'cramp') and the chances of cramp may be increased if the birds are held by their legs (see *Ringers' Manual* and Clark & Clark 2002).

End of mist net line, by Rob Robinson

Guys positioned 'one-up, two-down' help to maintain tension on the end pole.

If there are multiple birds in the nets, always extract from the bottom shelf first, to avoid putting strain on birds caught in the other shelves as the weight above them is removed. For higher shelves, take poles out and lean the nets over, rather than stretching to extract or pulling the net towards you, as the tension on the nets makes this very difficult.

Most species of wader can be double-bagged (or sacked in the case of large species like Curlew) if necessary. This is advantageous for smaller birds such as Dunlin in cold weather. Bags do not need to be tied shut as waders will not try to climb out. The one species that should never be double-bagged is Turnstone, as they might fight. ⇨

Nets at sunset and keeping cages, by Ruth Walker

Mist nets over water at dusk (left); tall keeping cages (shown on right) are essential to prevent 'cramp' in long-legged species, such as Curlew. Extra material along the sides prevents birds from escaping.

⇨ Carrying bags on carabiner neck hooks, or over the wrist (ensuring they do not drag in the water), will leave hands free for balance or for carrying a prodder. Birds should be taken back to 'base camp', where they are ringed and processed, at regular intervals and, if the size of the catch requires birds to be kept while waiting to be processed, they should be put into keeping cages (see *Ringers' Manual*).

If birds have been double-bagged, the bags must all be checked very carefully. If a variety of species is being caught, pinning species name labels onto keeping-cage compartments can prove very helpful. To avoid the possibility of 'cramp', birds should not be left in bags for long periods and long-legged birds should be processed and released first. Keeping cages should not be left unattended at night to avoid any predators finding them.

RELEASING BIRDS

Releasing birds onto a field with short grass or onto a ploughed field, well away from lights at base camp, is ideal. Transport birds in keeping boxes and release birds into wind so that it is easy for them to take off, but allow time for their eyes to accommodate to the dark. It may be helpful to put a mist-net pole on the ground as a marker beyond which birds are released, so that there is no risk of standing on any birds that have not flown immediately. Alternatively, release from the top of a sea wall, by letting each bird stand on the palm of the hand and then gently raising the hand up and down. The bird should naturally open its wings and take off into wind as the hand is lowered. If there is no wind at all, birds may need to be launched gently.

REFERENCE

Clark, J.A.& Clark, N.A. (2002) Cramp on captured waders: suggestions for new operating procedures in hot conditions and a possible field treatment. *Wader Study Group Bulletin* 98, 49.

'Part 2: Mist-netting inland waders' will feature in the autumn 2016 edition.

International Wader Study Group (IWSG)

The IWSG is an organisation for both volunteer and professional wader researchers. The group aims to bring together researchers from all continents to help organise cooperative studies and projects and to provide opportunities for the exchange of information on waders and their biology. This is achieved through holding an annual conference, publishing a peer-reviewed journal *Wader Study* three times a year, publishing occasional volumes of *International Wader Studies* and by acting as Wetland International's Wader Specialist Group. The work of IWSG helps provide information on current threats to wader populations and habitats worldwide.
www.waderstudygroup.org

Turnstone, by Ruth Walker