

steel rod and these were not strong enough - we soon broke one and severely bent others but others were fired many times without failure. About that time (winter 1977-1978) an expert welder happened to be attending a series of lectures on birds that I was giving..... so I asked him if he could make us strong projectile rods and he agreed. Some were hinged to satisfy public opinion and my own qualms and some were straight and merely welded into a hole drilled into the end of the projectile. We first used 12 mm rod which bent quite easily so we then used 15 mm diameter mild steel. Both types (figures 7 and 8) worked well so after prolonged trial we decided that the hinge (figure 7) served no useful purpose and got our welder to make as many projectiles as we required with straight projectile rods (figure 8). These rods have an eye at the outer end which just protrudes from the muzzle of the set cannon and this is connected by a strong D-shackle to the net traces. This system works well and we no longer suffer from 'projectile troubles'.

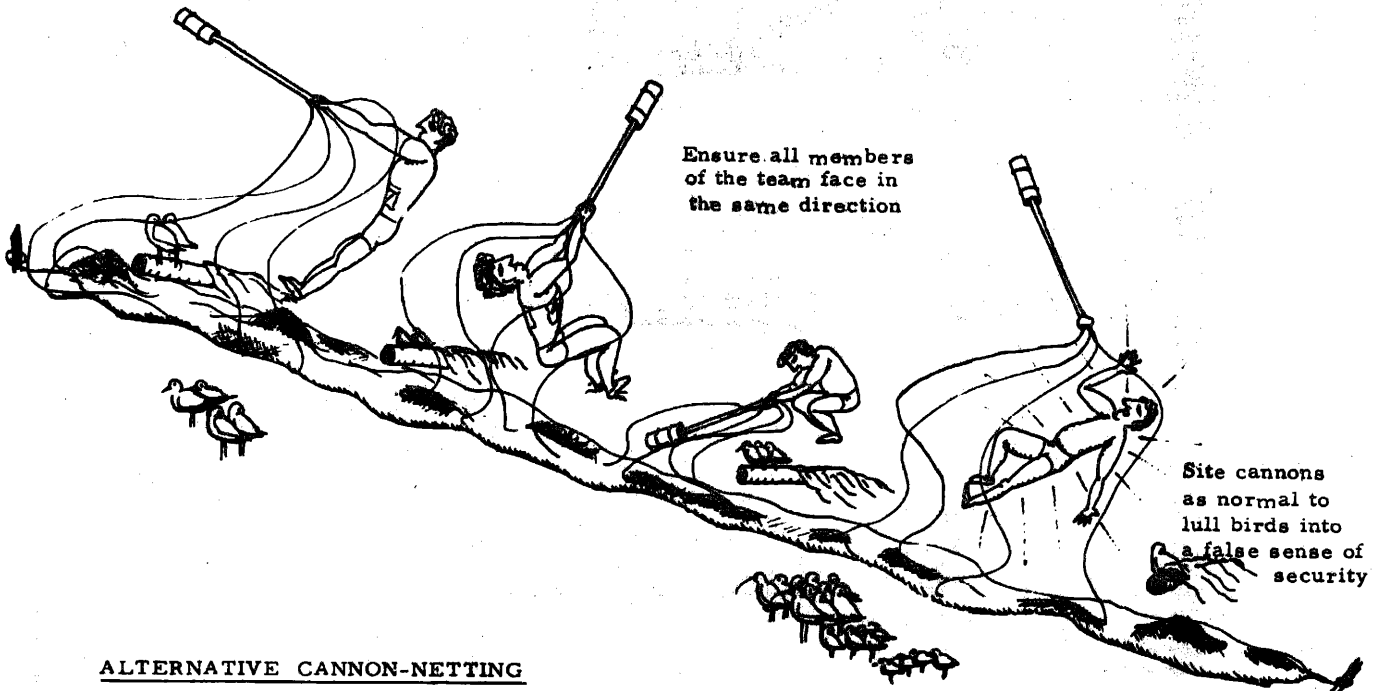
One factor of interest is that we now generally set the cannons beneath the furled net and not (as is usually done) behind it. The projectile then pulls the net up and over the cannons. When the net is fully stretched on jump ropes the rear edge falls about 1 m in front of the cannons. This method was developed for rubbish tip work for various reasons which are described in the 'Canon Netting Code of Practice' (Bulletin 23, page 5). It enables the net to be set in a narrower space than with cannons positioned behind the furled net.

Spin off? The old style projectile weighs about 3.1 kg: the new ones with metal rod are near 3.9 kg. I think the original design was selected fairly arbitrarily when the Wash Wader Ringing Group built its own cannon netting equipment probably from a North American design. The lighter projectiles are too light and often fail to stretch a wet net to its fullest extent. The new heavier projectiles are more satisfactory in this respect and it is quite probable that a still heavier projectile of perhaps 4.5 kg might be even more satisfactory though I must say such a weight requires trial before someone rushes off and builds a complete set!

I conclude by recommending that on the grounds of safety and efficiency that all projectile ropes are discarded and replaced by either hawser or better by steel rods. I know a welder who will make them for you but they will cost you a little (write to me) and we cannot enter into the export business.

Obviously many people have been involved in discussion, trial and manufacture during the development of the projectile and thanks are due to all of them especially my colleagues of the Celtic Wader Research Group and to various itinerant Midland gull catchers; also Ron Little, Clive Minton and welder Geoff Humpage. Ray Bishop drew the figures.

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ALTERNATIVE CANNON-NETTING

The new design of projectile may allow a new form of propulsion in case of electrical or mechanical failure of the cannons or shortage of explosive. Four hammer-throwers are required (spares may be useful in case of injury due to release in wrong direction) but there is the additional advantage of lower noise characteristics than conventional equipment. Current developmental problems mainly concern synchronizing the launching, and camouflaging the new cannon-substitutes. A further announcement will appear if these difficulties are ever overcome. Thanks to Nick Davidson for the technical drawing of this equipment printed above.

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