

WHO SAID PIGEONS DO NOT HAVE A DISTRESS CALL?

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Abstract

The Feral Pigeon *Columba livia* var. has been known to man for centuries since domestication of the Rock Dove to provide a ready source of fresh meat. It is a species regarded as a significant pest in many areas of the world and a common hazard on aerodromes. Habitat management apart, what methods are available to aerodrome bird control staff? At present these are limited to pyrotechnics and lethal means and the latter can create public relations problems that flight safety does not need.

In 1968, T. Brough wrote "Some, such as woodpigeons are not known to have distress calls". This one simple statement has been corrupted over the years to "Pigeons do not have distress calls!" There was, however, no justification for accepting this corrupted statement. Why should a bird of any species not have a call of anguish when seized by a predator? It must be asked, even of the author of this report, why was this view so quickly accepted. One possible answer is that at the time of the intensive bird distress call research and development in the UK, the main area of interest was in gulls and waders and at that time, pigeons did not figure significantly in the bird strike statistics.

That aside, it is interesting to note that some bird control specialists and equipment producers still maintain this unfounded belief that pigeons do not have a distress call. Such opinions may result in other bird control methods being potentially lost to aerodrome bird control.

This paper presents data, collected in a systematic way, showing that not only do Feral Pigeons give a call when "artificially" caught by a predator, the call may have a practical use in non-lethal control of these birds.

This work is part of a wider resurgence of distress call evaluation and development in many parts of the world including large species such as Australian White Ibis.

Key Words: Control methods, Sound - Bio-acoustics.

Introduction

In the early 1960s, Trevor Brough was examining the potential of using distress calls to prevent Starling damage to top fruit in orchards. Following approaches by aviation interests, this work was extended to assessing the same methodology for use on aerodromes, particularly against gulls. At that time, this group was involved in over 50% of all bird strikes. The commonly held impression then was that the industry required a simple and effective scaring method with universal application.

Unfortunately, no method alone will solve the aerodrome problem. Whether it is habitat management and proofing, trapping and killing or scaring, nothing is 100% effective for 100% of the time.

In 1968, Brough wrote, "Some such as Woodpigeons ... are not known to have distress calls." During the past 30 years, this simple and factual statement has been corrupted to read "Pigeons do not have a distress call." This was even applied to a RAF Flight Safety poster, where the Woodpigeon, Golden Plover and Oystercatcher were listed as "species that do not possess distress calls." Today it is difficult to understand how this happened but part of the blame at least, can be assigned to the author of this paper. However, this admission does not account for the simple acceptance of this unfounded statement by both the industry and biologists alike since then. In partial mitigation, at the time the main effort was applied against gulls, crows and waders as these bird groups were numerous both on aerodromes and in the bird strike statistics.

Now, over 30 years later, it appears that Feral Pigeons at least, do possess and utter a distress call. It is probable that many species emit some call of anguish when caught by a predator but of course, they may be of no practical use in bird control.

In 1998, Scarecrow Bio-Acoustic Systems Ltd. commissioned NH Bird Management; to evaluate a series of Feral Pigeon calls that were reported to be repellent to pigeons and this paper summarises the findings to date.

Some problems were immediately apparent: -

1. How to determine whether the calls were distress calls or not was going to be difficult, as no one in the pest control industry knew what the distress call should sound like. No falconer had mentioned that pigeons gave a distress call when caught by their birds. Specialist ornithologists knew of no such call.
2. How do pigeons react, if indeed they do react, to broadcast distress calls?

3. If there was a reaction, was this merely because the sound was novel?
4. Although it sounds improbable, where could we find suitable test sites? When this has been mentioned it has caused some hilarity because Feral Pigeons are everywhere and they are, until you need them! In addition in rural areas there was always the response "there were hundreds here yesterday"!
5. Interference by the public whether deliberate or not, nullified many test broadcasts as it was not clear what caused the birds to disperse. This setback to the trials had not been allowed for in the experimental design. The majority of people like pigeons; throughout the world from such locations as Temples in Tokyo and Trafalgar Square in London, stalls are set up selling pigeon food for residents and tourists alike, to feed the pigeons.

Method

The original call sequence was digitised and a series of trial call samples was encoded onto hand-held broadcast equipment. Hand-held equipment was a necessity because in the urban situation it was easier to walk and take public transport. Hand-held equipment was also easier to conceal under a coat when the uninformed and irate pigeon feeder was searching for whoever was doing some barbaric act to a poor bird. Initially the three components of the sequence were examined in isolation. These were described as; "wing clapping", "growls" and "call" and were first selected by ear and then field-tested.

They were then re-mixed into various call combinations and field-testing continued. The Lapwing distress call was used as a control.

Once there were sufficient data from the urban and rural tests, the test equipment was placed with the bird control staff at a major civil airport in the UK with a known pigeon problem for them to test.

At the end of all broadcasts, a score sheet was completed and analysed in a similar way to Brough to allow for direct comparison with his 1968 data.

Results

Individual components

Wing clapping.

It was quickly clear that the wing clapping alone had no dispersal effect (Table 1). Even at a broadcast distance of under 5m and at full volume, the biggest reaction was noticed in the closest birds and this was only to walk up to the rest of the flock and continue feeding.

Growls.

This sound did have a slight effect in that birds dispersed in 20% of plays but on most occasions the target birds did not even look up from their feeding.

Call type	Number of tests	Good dispersal	Moderate dispersal	Poor/no dispersal
Markers	From Brough 1968 - Distress calls only			
All species	598	80%	8%	12%
Best response rook	181	93%	5%	2%
Worst response starling	118	57%	11%	32%
Candidates				
Feral pigeon		Dispersed	Poor or no dispersal	
Wing claps	10	0	10	100%
Growls	10	2 20%	8	80%
Distress call lapwing control	9	3 33%	6	67%
Distress call Full volume	7	0	7	100%
Distress call Medium volume	15	11 73%	4	27%
Distress call Low volume	30	19 63%	11	37%
Distress call	52	30	22	
All tests		58%	42%	
Combinations	17	10	7	
Claps+growls+call		59%	41%	

Table 1. Results of trials using distress calls alone to disperse birds.

Notes: Markers: Good Dispersal = more than 90% dispersed

Candidates: Dispersal = 100% dispersed, the "standard" desired by the general pest control industry.

"Distress call"

Early tests with this call had no effect. Later ones where the volume was set to zero before the broadcast start did disperse birds on occasions. The percentage success rate in the table is inclusive of all broadcasts whether at fixed volume or not. Overall, dispersal was successful in about 60% of the broadcasts and this figure is comparable to the result obtained for the Starling distress call alone in 1968.

Wing clapping + growls + distress call combinations

Whatever combination was chosen, dispersal was more frequent than with the first two sounds alone but no combination gave a better response than the "distress call" alone.

Discussion of initial testing results

1. What is dispersal?

In the original distress call tests, dispersal was successful if the birds cleared from the target location. Our experience since then has allowed a greater understanding of where birds will move to in reaction to distress calls. If we are correct in assuming that because a distress call is only given in the wild when a predator catches a bird, it must indicate to other birds that a predator is active in their vicinity. The reaction of some species is to approach the source of the call before dispersal, presumably to mob the predator but ultimately they fly away to where they are more secure. Gulls and Lapwings seek other suitable flat areas; Starlings and corvids find such security in shrubs and trees or use man-made structures such as buildings and pylons. Pigeons do the same. Whereas they are vulnerable feeding on the ground, from an adjacent rooftop they can observe what is happening below. Their immediate concern is below them because whether the predator is a mammal or bird, while it is dealing with its prey it is on the ground. Therefore, dispersal will not be the same in different locations. If Woodpigeons are dispersed from the middle of a cereal field or airfield, the nearest refuge should be the boundary fence. If Feral Pigeons are dispersed from the open skips at the rear of a fast food outlet, their nearest refuge could be the rooftop 20m above them.

2. Was any dispersal the reaction to a distress call?

Of necessity, this had to be determined by observation and direct comparisons were possible during the trials. If the London traffic or building workers did not create the startling noise, a 1950 vintage football rattle did. Invariably the response of ground feeding pigeons to such noises was to take

flight immediately, and then they would either fly around in a tight group or depart straight away. There was never any hesitation.

When distress calls are broadcast to other species, there is often a lag between call start and the birds responding that can be well over 10 seconds. In this period it is assumed that the birds are identifying the call and locating the source before taking flight.

Feral Pigeons did the same, in the majority of tests with the distress call even if ultimately they took no further action. On hearing the call at a low volume the birds stopped feeding and became alert, a natural response to a call they recognise that has an intrinsic meaning to them. After this thinking time they either took flight or started feeding again. Two general dispersal patterns were seen; in open areas such as city squares and car parks the birds often climbed into a tight flock, circled the area a few times then flew off together dropping to a low level. On the open street or in closed-in areas, once they took flight they flew away immediately, commonly going *round the corner* and out of sight. Again their flight was often at low level. Do flocks of pigeons dive to a low level, sometimes under 5 metres as an escape response to a predator? Whatever, this behaviour was rarely observed when pigeons were startled. However, when feeding in the rear yards of fast food outlets often they flew to the adjacent roof. On one occasion in St James Park, London the call was played at very low volume from about 50 metres to a flock of 40 Feral Pigeons being fed by a lady. In typical fashion, feeding stopped and the birds became alert with heads up and then they ran towards the source.

It cannot be stated at this time what Woodpigeons did on first hearing the call as most tests against this species were made when the birds were feeding on ripened cereals just prior to harvesting. When the Lapwing control was played in the same situation at similar volume, the Woodpigeons did not disperse. These results indicate that the response is unlikely to have been due to the novelty of hearing such a call for the first time.

The Feral Pigeon call had no dispersal effect on Collared Doves and Stock Doves. In the case of the latter it could be that as with other species, a flock responds better to distress calls than one or two individuals. All the broadcasts to Stock Doves alone, were to one or two pairs.

The Aerodrome Tests

The results obtained from the urban and rural trials encouraged us to transfer the testing to a civil airport with a good bird control procedure already in place. The airport also had to have a significant pigeon problem.

On hand-over, the bird control staff were given a short brief on how the report forms were to be completed and told to use the equipment as necessary as part of their normal task.

The results from their first trial were disappointing, as only 50% of the broadcasts were successful whether the target birds were Feral or Woodpigeons.

Operator attitude was also heavily biased against the tests by some of the longer serving staff who were very quick to say that I had told them there was no such call for pigeons. Fortunately, the newer staff had a more open mind. At the end of the trial staff opinion of the technique was equally divided, some saying they had used only the distress call throughout their shift, had not fired a bird scaring cartridge and kept the pigeons off the airfield. Others were just as adamant that it was of no use against Woodpigeons and they would not use it. Driving around the airfield with one of these staff members at the end of the trial I was shown just how difficult it was to move the Woodpigeons from the taxiway edges. However, these difficult Woodpigeons were Stock Doves, a species that as already stated, does not react to the Feral Pigeon call. The incorrect identification of the pigeon species makes the airfield test data unreliable and therefore, it cannot be considered further.

Overall Comment

Field testing of candidate bird control methods is still a very long-term function. By April 1999 we had a valid sample of 89 individual broadcasts, that had taken over 50 man-hours to obtain. We had driven over 1200 kilometres around a large farming estate and local town and walked over 20km around London.

Measuring the success and value of a bird dispersal tool in isolation from an integrated bird management scheme is very difficult. Others may deride what an independent tester may think is a reasonable success rate, and regard the technique a failure because 100% success was not achieved. In the Introduction I indicated that no one technique was 100% successful, Andy Baxter's paper at this conference supports this view.

Is a Feral Pigeon distress call of practical use?

Habitat management or proofing alone does not provide 100% success; Deacon & Rochard's paper at this conference provides a clear example of an on-airfield case.

Killing by whatever method is unsuccessful in isolation, as are bird-scaring cartridges over time.

The "distress call" is only about 60% efficient.

But what do we get if we add all these elements together? There is a place for the Feral Pigeon "distress call" as part of an integrated bird management scheme

Future Proposals

In the 1960s and early 1970s, hundreds of individual distress calls of pest species were collected and stored. Seven of these were selected and are in use on UK aerodromes. The work reported on here is part of a wider examination of the use of distress calls for bird control. We only have one pigeon distress call and more will be obtained, edited and tested to improve upon the current success rate. In the short-term, the controlled airfield trial will be repeated and we will ensure that all the bird control staff can correctly identify the pigeon species.

References

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