



SCARECROW
BIO-ACOUSTIC SYSTEMS
KEEPING BIRDS AT BAY

SCARECROW PATROL TWO 1307

SCARECROW GOOSE PATROL 1309

(Including specially processed versions)

HAND HELD BIRD DISPERSAL SYSTEM

GUIDE FOR CARE AND OPERATION

**INCLUDES NOTES ABOUT BIO-ACOUSTIC BIRD
DISPERSAL: THE PRACTICAL USE OF DISTRESS CALLS**

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“A HANDBOOK ON THE CORRECT USE OF SCARECROW PRODUCTS AS A METHOD OF BIRD CONTROL”

Copies of the complete Handbook can be purchased from the SCARECROW Sales Office at the price of 30.00 POUNDS STERLING, plus Shipping costs.

Whilst the unique efficiency of **SCARECROW** bio-acoustic products is long established **SCARECROW BIO-ACOUSTIC SYSTEMS LIMITED** stress that they can only work effectively as part of an overall and planned programme of bird control. This will include total hygiene management and where applicable the use of operatives who have been professionally trained. Without limitation, **SCARECROW BIO-ACOUSTIC SYSTEMS LIMITED** will not accept liability for any consequences as a result of poor equipment maintenance, misuse, inappropriate use, lack of operative training, failure of due diligence or through lack of prior project consultation.

WARNING: SCARECROW PATROL TWO AND SCARECROW GOOSE PATROL contain digitally encoded, therefore easily identified, licensed recordings of **SCARECROW** processed bird SPECIES distress calls. These are Copyright protected and action will be taken against any person or business copying these whether for private or further commercial use. The possession, purchase and/or ownership of **SCARECROW** products is taken as acceptance of this Copyright and that due care and attention will be taken in its protection.

** Please carefully read these pages before use**

Thank you for purchasing this SCARECROW PATROL series hand held bird dispersal system.

HANDLE WITH RESPECT

With care, **PATROL** will give you a lifetime of use. Please take note of the content of these pages before operating **PATROL**. **For safety, always store PATROL in the showerproof bag provided.** There is space in the bag for spare batteries.

PRECAUTIONS - EAR DAMAGE

PATROL must **never** be operated near the ear or with the horn directed towards the ear. When testing, point **PATROL** downwards towards a non reflective, sound absorbent, surface.

PRECAUTIONS - BATTERY LIFE

Always keep **PATROL** loaded with batteries and regularly check the battery power. Exhausted batteries may not only make **PATROL** inoperative, but may damage the total product if they should leak.

PRECAUTIONS - ENVIRONMENTAL

PATROL is designed to operate in most environments but it is preferable not to leave it exposed:

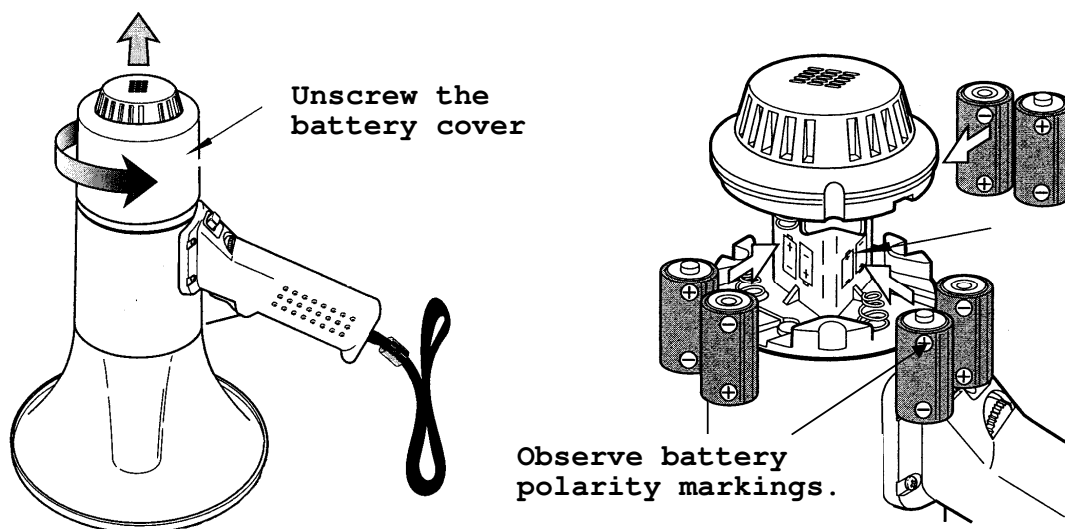
- (a) in direct sunshine for long periods
- (b) near any source of radiant heat
- (c) where temperature or humidity is high

PATROL is moisture proof but please do not leave it in the rain or drop it into water. If it gets wet, wipe it dry with a clean cloth, making sure **NOT** to use any petroleum based cleaner or proprietary chemical impregnated cleaning cloths which may damage the exterior surfaces and / or labelling.

SETTING TO WORK - OPERATIONAL USE

PATROL has a detachable safety wrist strap. When not in use **PATROL** should be stored in its showerproof bag.

SETTING TO WORK - BATTERY LOADING (C size)



Unscrew the battery compartment cover, located at the microphone end of **PATROL**; turn the cover to the left (anti-clockwise) to remove it. Place six 'C' dry cells in the compartment as indicated, matching the polarity markings on the cells with those on the compartment. Replace the battery cover by turning to the right (clockwise).

Always be sure to use the **same type** of battery at any one time: **do not mix brands or types**, e.g. rechargeable with non-rechargeable. When changing any cells consider changing all of them at the same time otherwise battery life may be shortened or leakage or explosion may occur. For maximum performance we recommend Alkaline batteries, e.g. Duracell. 'C', now available with 'health' indicators.

In general, avoid putting battery-powered devices in extreme temperature environments; these conditions, hot or cold, may reduce battery performance. Where the equipment is to be used or stored in extreme temperatures, always use Alkaline batteries, which perform much better and have a longer life-span than carbon batteries under such conditions.

POINTS TO NOTE

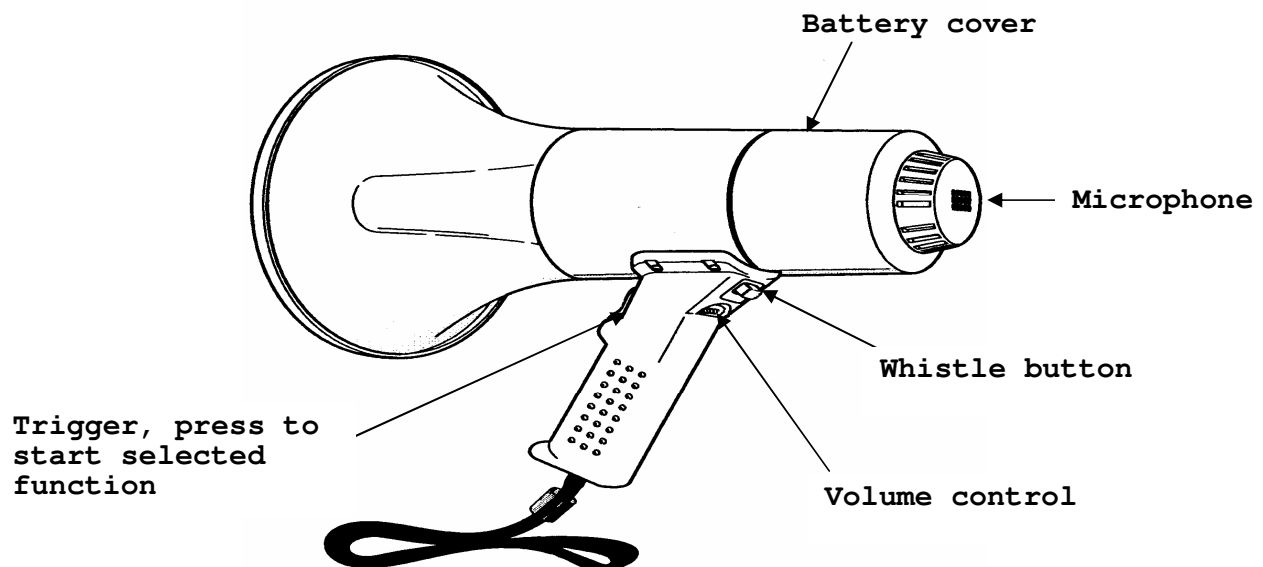
1. Remove discharged batteries promptly to prevent possible damage from battery leakage. Never dispose of batteries in fire, they could explode.
2. Do not attempt to recharge a battery unless the battery specifically is marked "rechargeable". Recharging a non-rechargeable battery may cause it to rupture, leak, or explode.

3. Do not store spare/replacement batteries loosely or carry them loose. Batteries can be shorted by contact with metal objects and consequently leak or rupture. Use the special zipped area of the PATROL carrybag for safe stowage.
4. If it is expected that the equipment is not to be in use for several months, remove batteries.
5. Always keep the battery contacts in a clean condition. If dirty or damp, this could reduce battery life and may cause failure to operate. Keep a fresh spare set of batteries in the bag compartment provided.

SETTING TO WORK - BATTERY CHECK AND MONITORING

PLEASE NOTE : The internal memory of PATROL is protected against 'low battery'. When the batteries fall below their minimum useful voltage the bird call facilities will automatically stop working, leaving only the siren and live speech operational. Please then replace the batteries with new ones.

SETTING TO WORK - THE CONTROLS



There are four controls on SCARECROW PATROL.....

1. TRIGGER SWITCH

This is located on the front surface of the Operating Handle.

When the trigger switch is depressed, **PATROL** is in the **operating** condition. When the switch is released, **PATROL** is **off**. Make it a habit to pull the trigger only when necessary, which will save battery power to a considerable extent.

Never use other means of keeping the trigger permanently depressed for continuous playback use, for example, plastic tape or rubber bands.

If the trigger switch is pulled whilst the whistle is sounding, the whistle stops and voice amplification or distress call broadcast is possible.

2. WHISTLE BUTTON

When the red whistle button is pressed down until a "click" sound is heard, the whistle starts to sound regardless of the setting of the volume control. Releasing stops the whistle.

3. a) FUNCTION SELECTOR – PATROL 1307

This allows selection of any stored bird distress call for playback or for voice amplification use. The WHISTLE overrides this function selector.

‘A’ is the Live Speech position and the birds can be selected thus:-

B Pigeon	C Black Headed Gull	D Herring Gull
E Common Gull	F Starling	G Rook
H Magpie	I Crow	J Lapwing

3. b) FUNCTION SELECTOR – PATROL 1309

‘A’ is the Live Speech position and the birds can be selected thus :-

B Canada Geese 1	C Canada Geese 2	D Canada Geese 3
E Canada Geese 4	F Pigeon	G Herring Gull
H Black headed Gull	I Starling	J Rook

To special order, some birds may be substituted and the function label on the side of PATROL will show these.

4. VOLUME CONTROL

Adjust the volume control to the desired level. If set too high for speech use this will cause acoustic feedback, acoustic coupling between the **SCARECROW PATROL** loudspeaker and its microphone, often called ‘howl-round’; when PATROL is used for bird dispersal high sound levels will cause birds to habituate over time.

- a) **Bird dispersal usage:** Playback should be at a sound level appearing to the bird being dispersed to be the same loudness as their natural call.

PLEASE THOROUGHLY READ POINTS 1 – 7 AND TAKE NOTE OF THESE WHEN DISPERSING YOUR TARGET BIRDS:

1. Birds are not impressed with loud noise, bangs, etc; they may fly away, but in days will become acclimatised and habituated to these intrusions and therefore ignore them.
2. Birds are concerned when they hear the distress calls of their species; if these are played at a *natural* sound level they will sense a hostile environment and always fly to a “safer” area.
3. For Pigeons only, broadcast their distress calls from above them wherever possible, to offset their tendency to fly upwards, to a safer perch.
4. To reach a natural sound level, start with a low sound (volume) setting; gradually increase this volume until the targeted birds begin to respond, often simply by turning their heads towards the sound. Release the trigger momentarily and press again to start the selected call at its *natural* beginning for maximum dispersal effect.
5. It is likely that the birds will take off, fly up and seek the distress call source, in this case a PATROL.
6. Play the selected call for not less than 90 secs and for no more than double this length, with silent intervals between playback of greater than 4 mins.
7. Perseverance and the removal of all debris and food attractions is a key to maximum dispersal efficiency.

- b) **Microphone usage:** Set to the desired level so that the message can be heard by all intended to receive it, not higher so as to prevent ‘howl-round’.

SETTING TO WORK - BIRD DISPERSAL USAGE

Set the **function** selector referred to above to the desired distress call and press the trigger to start the broadcast.

SETTING TO WORK - MICROPHONE USAGE

When in use the microphone should be about 1.0 to 2.0 cms from the mouth; any closer and the sound quality may be impaired, further away and sufficient amplification may not be obtainable.

SETTING TO WORK - ALARM WHISTLE

PATROL is fitted with an alarm siren for attracting attention, or for simply warning of danger, as in the case of a moving vehicle being driven in a crowded area.

Press the **WHISTLE** button to start; release to stop. For security purposes the sound level of the alarm siren is preset.

TAKE GREAT CARE NOT TO POINT PATROL AT PEOPLE CLOSE BY WHEN USING THE ALARM SIREN; THE OUTPUT LEVEL IS SUCH THAT PERMANENT EAR DAMAGE COULD OCCUR.

In the unlikely event of service being necessary, please return the product direct to:

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***PLEASE INCLUDE A NOTE DETAILING THE APPARENT FAULT,
THE RETURN ADDRESS, A TELEPHONE NUMBER AND NAME OF
CONTACT PERSON.***

SCARECROW

BIO-ACOUSTIC SYSTEMS

KEEPING BIRDS AT BAY

ABOUT BIO-ACOUSTIC BIRD DISPERSAL: THE USE OF DISTRESS CALLS

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1. SOME GENERAL NOTES ABOUT BIRD DISPERSAL

- 1.1. **The use of bird distress calls as a tool for bird dispersal is not new. They have been around for over 40 years, being initially tested and used on UK aerodromes to help combat the bird strike problem to aircraft. Following this success they have been introduced, where possible into all pest bird management**
- 1.2. Their use differs from other commercially available bird control techniques because they are not based upon what we, as humans, consider should scare or startle birds. Merely because loud bangs may startle birds in the same way as they make us jump, does not mean birds will associate such a noise with danger. If they are not in danger, they have no reason to leave.
- 1.3. So what is a distress call? **This needs definition, as there is confusion over alarm and distress calls. An alarm call is given by some birds as a signal that there is a potential risk of danger. A bird gives a distress call only when a predator or man catches it. In other words, it is not warning of potential danger, it is stating that the danger is here now.**
- 1.4. Birds have an instinctive behaviour when subjected to their own species distress call and this has caused confusion in the past with operators unfamiliar with the technique. It is expected that any bird control device will cause birds to fly away immediately and, hopefully, not return for a long time. Some species do fly away from the source of the call, some species react immediately on hearing the call, but others do not. Instead, on hearing the distress call, they stop whatever they are doing and appear to be assessing the situation and identifying the location of the source. This may take from a few seconds to over a minute before they take flight.
- 1.5. **What have the target birds discovered at this stage?** First, they know the location of the predator, it is at the source of the call and, it is on the ground. An obvious fact if the predator is a fox but if the predator is a falcon, this master of the air is now on the ground and very vulnerable to attack. Gulls and corvids, in particular, after the initial "thinking time", take flight and fly towards the predator - these birds are not being scared.
- 1.6. In the natural situation, the approaching birds could mob the predator, forcing it to release its prey. Thus, the distress call has a survival value for the bird giving it. Also, of course, because it indicates the presence of an actively hunting predator, any bird not responding to it could well end up as its next meal!
- 1.7. When the call is broadcast artificially, the initial response of the birds is the same but when those species that approach the source of the

call do so, they do not see a predator. The distress call indicated that there was one, it gave away the predator's position, they have arrived at that location and there is no predator. Suddenly the once safe area for them has become hostile because they cannot pinpoint the predator, so they move on to a safer site.

1.8 The following table summarises the general reaction to broadcast distress calls.

Bird Type	Approach the source	Hold for duration of call	Immediate Flee
Gulls	Yes	Over Source	Rare
Corvids	Yes	Over Source	Rare
Waders	No	Over position	Often
Pigeons	Occasional	Rare	Usual
Starlings	No	No	Normal

- 1.9 **Where do birds "feel secure"?** This varies between species but it can be a location that allows birds to undertake their normal daily routine in safety. Or, it can be a site where the birds "feel safe" to escape any danger, house sparrows, for example, feed close to shelter and if disturbed, fly straight into the nearest dense shrubs or bushes. The social flocking ground feeders such as gulls and waders seek the security of flat open areas from where they can see the approach of any predator soon enough to take evasive action.
- 1.10 It is unfortunate that one avian pest finds security in the very location pest controllers seek to remove it from. Feral pigeons find security, resting and breeding sites on buildings and when disturbed from the ground fly straight to these. They are then very reluctant to leave their safe perch when there is a threat somewhere in their vicinity.
- 1.11 **Is the target birds' response always the same?** The short answer is no, the dispersal response varies because of a number of factors. As a general rule, breeding birds are virtually impossible to scare from their nest site; feeding birds have a stronger attachment to a site than do resting birds. However, resting birds become more reluctant to move when they are in moult. Very often, juvenile birds make no response at all, probably because they do not know what they should do. In the case of ground nesting birds, these youngsters often try to bury themselves in the ground to hide on hearing a distress or alarm call, as they did when they were flightless.
- 1.12 Where distress calls are frequently used, local birds that usually approach the source may not do so after a while but disperse on hearing the call; habituation is possible but distress calls, if used correctly, it will take longer to be seen than with bird scarers. In both these cases, changing to the call of a closely related species will

reinforce the usual call that should be rested for a short period. However, habituation will develop if dispersal action is less than thorough. For example, driving a vehicle at speed whilst broadcasting distress calls from it gives no opportunity for the target birds 'approach and investigate' behaviour. By the time birds have taken flight, the reason for disturbance has departed and they will return soon afterwards.

- 1.13 **How long will it take the birds to disperse?** This again varies with the activity of the target birds and the attraction of the site. In some cases, as with local residents mentioned above, it can be immediate. However, because the reaction is instinctive, distress calls should not be considered when immediate dispersal is necessary.
- 1.14 As already mentioned, there is usually a time lag before the target birds respond. As they identify the call, the birds take flight and those that do, approach the source and circle overhead for at least the duration of play. Gulls, for example, appear to be more secure when in the air than in a flock on the ground and may remain in the area for some time before dispersing. The same is true for corvids and as a rule the greater the distance between the SCARECROW equipment and the target flocks, the greater the time for dispersal.
- 1.15 The recommended distance is 100 metres and the recommended length of play 90 seconds. This allows the target birds to "think about it", approach the source and begin to disperse. It is best if the broadcast is upwind of the birds but not imperative. As the distress call is indicating the location of a predator on the ground, it follows that the broadcast should be from a stationary position.

2. PRACTICAL USES OF DISTRESS CALLS

- 2.1 **The basic technique.** There are a few points to always bear in mind before considering bird dispersal techniques:
- Why are the birds there?
 - Is bird dispersal the right option?
 - Can the attractions be removed first - this makes any dispersal attempt easier!
 - It is generally easier to prevent birds arriving than to disperse them once they have become established.
 - Bird dispersal, by any method, should only be a part of an Integrated Bird Management System.
- 2.2 Once it is decided that distress calls are suitable, the first step is to identify the birds in order to select the correct call. Each call is species specific, therefore, birds respond best to distress calls of their own species. This is not a hard and fast rule as already mentioned in 1.11, using the call of a closely related species' delays the onset of any "cry wolf" effect.

Similarly, birds that share the same habitat often react on hearing the distress call of their companion species. This is due in part to the sudden change in behaviour of their companions on hearing the call.

"What's up? Where are they going? I'm going too!"

So on a landfill, for example, gulls and corvids may react to each other's calls.

2.3. The following table details call preferences:

<u>TARGET SPECIES</u>	<u>PRIMARY</u>	<u>CLOSE RELATED</u>
Black-headed gull	Black-headed gull	Common gull Herring gull
Common gull	Common gull	Black-headed gull Herring gull
Herring gull	Herring gull	Black-headed gull Common gull
Lesser black-backed gull		Herring gull Black-headed gull Common gull
Great black-backed gull		Herring gull Black-headed gull Common gull
Lapwing	Lapwing	
Golden plover		Lapwing
Starling	Starling	
Feral pigeon	Feral pigeon	
Woodpigeon		Feral pigeon

Rook	Rook	Jackdaw Carrion crow
Jackdaw	Jackdaw	Rook Carrion crow
Carrion crow	Carrion crow	Rook Jackdaw
Magpie	Magpie	Rook Jackdaw Carrion crow
Mynah	Mynah	Starling

- 2.4 Broadcast the call. Common sense is required after the call is selected. If possible follow the ideal method as in 1.14 but, if the distance is shorter or longer than, 100m adjust the length of play accordingly. Additionally, only play the call at sufficient volume to disperse the target flock.
- 2.5 Whenever possible, time being the usual constraint, allow the birds to undertake their natural response to the call. Do not move the speaker position while the call is broadcast (but see 3.1.5) nor employ any other scaring device. Once the broadcast is stopped, if the target birds have approached the source, allow them to disperse at their own pace.
- 2.6 What happens if other devices are used in conjunction with distress calls? Some may help the harmless confidence trick whereas others can counter any repellent effect. Of the former, waving a white or black rag while the call is broadcast can reinforce the call by simulating the calling bird. Any pyrotechnic device or shotgun blast induces birds to flee; therefore, their use during a broadcast when birds are approaching the source can create confusion. As such, they do not enhance any dispersal effort. Once the broadcast is stopped, they may be used to hasten the birds' dispersal if time is a problem.
- 2.7 **Scarecrow Bio-Acoustic Systems recognises that no single bird dispersal method is 100% effective for 100% of the time.** The greater the variety within the bird control armoury, the more efficient will be the system. The ultimate bird controller is man; everything else is just a tool to assist the task. However, that same man must have the knowledge of how the systems work. In most circumstances, bio-acoustic bird control is only successful if activated by a trained and knowledgeable operator at the right moment.
- 2.8 Dispersal action must be a determined and organised routine without being a repeat of a regular plan or previous pattern. So, it is important to vary the approach as much as possible within the scope and limitations of the equipment, local situation and routine. In order to be successful, the operator has to be motivated to be more persistent than the birds. **Remember that they only want a quiet life too!**

3. APPLICATION OF DISTRESS CALLS BY LOCATION.

Risk-reducing measures and bird dispersal are essential in situations where the presence of birds can be a safety or health hazard.

3.1 AIRFIELD BIRD DISPERSAL PROCEDURES

Aerodrome users of Scarecrow equipment are reminded that ICAO and National Regulatory Authorities provide full details of bird control policy, regulation and methodology. The following notes are not intended as a replacement for these but are for general guidance only.

- 3.1.1 The dispersal of birds from airfields and surrounding areas is an essential part of flight safety for civil and military operations and it must be carried out efficiently to maximise safety.
- 3.1.2 Airfields differ from many other bird pest problem areas in that they are generally flat, have a fairly uniform habitat, and because people are not present in the operational area, are very safe locations for birds. The problem is also easy to define and the target for bird control straightforward - a bird-free situation. A simple aim following the concept that if birds, especially those known to create a high risk of damage if hit, are not present then aircraft cannot hit them!
- 3.1.3 After habitat management procedures have been introduced the major attraction of any airfield is reduced and the number of birds decreases. However, some birds persist in visiting the site and need to be dispersed. These include gulls, grassland waders, corvids and starling; the species that the distress call technique was initially used against.
- 3.1.4 The bird control device has to be taken to the birds because of the large area airfields occupy, therefore, it is usually carried in a vehicle. The procedure for using SCARECROW equipment is the same except that the first stage is to locate the birds. Following identification and call selection (Table 2.3), the call is played from the stationary vehicle for 90 seconds.
- 3.1.5 The loudspeaker and/or vehicle are moved when broadcasting distress calls of lapwings and starlings. The typical lapwing response once in the air is for the flock to hold over their original position then for the flock to break into 3 or 4 groups that re-settle in different parts of the airfield. By moving the speaker to hold the flock in its beam, the flock can be slowly driven off the site. In this case, the distress call is broadcast continuously until the birds have been followed to the boundary fence.

- 3.1.6 Starlings tend to fly up immediately on hearing the call, fly downbeam for about 100m and re-settle. Once they are in the air the operator follows the birds, keeping about 100m behind them while broadcasting the call. The flock is then driven over the boundary fence.
- 3.1.7 With all species, if the airfield is attractive the birds will always return and the procedure is then repeated. Eventually the birds move on, they do not want the continual harassment created by a persistent operator.

3.2. BIO-ACOUSTIC DISPERSAL IN AGRICULTURE

In comparison to the aerodrome and urban bird situations, bird problems in agriculture tend to be relatively short-lived and seasonal. This is the market for which most of the “traditional” bird scaring devices were developed.

- 3.2.1. bird control in the rural environment has largely been by lethal or automatic means. Killing the pest birds removed the immediate problem, if only psychologically, and the traditional *Scarecrow* in the farmer’s field provided long-term protection. Commercial bird scaring devices tend to follow the *Scarecrow* tradition by being placed in a field and left to operate; bang, move, light flash or any combination as the automatic timer or wind dictate, whether birds are present or not.
- 3.2.2. There is a temptation to use distress calls in the same manner; place a broadcast system with a random timer sequence in a field and leave the device emitting distress calls, again whether the birds are present or not. There is the danger with such a system that the pest species will rapidly habituate to the call if always coming from the same position, especially so in a highly attractive feeding situation, such as starlings on a ripening cherry crop or gulls and corvids around intensive rearing units.
- 3.2.3. The basic principle is no different to that on aerodromes, dispersal is more efficient if distress calls are used as part of a variety of methods that are taken to the birds by man and used only when necessary.
- 3.2.4. Bird dispersal should commence before the birds arrive and distress calls of the relevant species broadcast as the birds approach. Starlings tend to bunch up into a large flock in the air and the loudspeaker should be moved to keep the birds in one cohesive flock. The call in this case should be broadcast for more than 90 seconds.
- 3.2.5. Gulls and corvids feeding around livestock approach the source on hearing the call and disperse to a safer area. While the food is available they will always attempt to settle but they cannot feed and they seek another location where they can.

The behaviour of the stock animals must be monitored for signs of stress, especially when distress calls are first introduced.

Correct use of the volume control may reduce the risk. On first broadcasting, gradually increase the volume from '0' until the birds take notice and respond.

- 3.2.6. Starling distress calls are very useful when attempting to clear a woodland starling roost. As roost dispersal of any communally roosting species is very complex, we recommend you first call Scarecrow Bio-Acoustic Systems Limited for specialist advice.

3.3. **USING SCARECROW IN THE URBAN AREA.**

- 3.3.1. The most common pest species in the urban area are feral pigeons and starlings. More recently, gulls have created problems by fouling, blocking drainage gullies and gutters with nest material, and allegedly attacking people.
- 3.3.2. The basic principles of an Integrated Bird Management scheme apply here because the reasons why the birds are present and creating the problem are usually very simple to define. Wherever we are there will be food for birds and other pests whether left deliberately or not. Additionally, the buildings that we live and work in provide birds with ample safe resting, overnight roosting and breeding sites.
- 3.3.3. 'Physical' proofing of buildings and structures has proved effective in excluding birds but only where it has been correctly fitted and maintained. Denying the birds access to food in an area where the proofing is efficient removes any reasons for the birds to stay there. Unless such actions are taken to any extent, all "scaring" attempts will be temporary measures and the greater the attraction to the birds, the sooner they will overcome their fear to the dispersal stimulus.
- 3.3.4. The most difficult species in this location is the feral pigeon, they are very used to people, general traffic noise and are only startled by sudden sharp noises such as vehicle backfires etc. Their response is then to seek the security of their perches on nearby buildings until they assess that any "danger" has passed. The response, when they do react to their own broadcast distress call, is similar and the nearest safe area might only be two storeys above the feeding site. Once on or in their safe perch, they are very reluctant to leave whilst they think a predator is still in the area.
- 3.3.5. Dispersal action should be taken at the start of the day, before the pigeons arrive at the feeding site. As the birds approach, the distress call should be broadcast to deter them from landing and the action repeated whenever they try to return throughout the daylight hours. Persistence by the operator is necessary to achieve any degree of success but if the attractions remain, the task will be so much more difficult.

- 3.3.6. The current recommended approach to dispersing pigeons from perching ledges is to broadcast the call from above the birds. Broadcasting from the ground, with the possibility of a high ambient noise level, is difficult and may not cause them to leave their safe site. The broadcast position give the birds the impression that the predator location is below them and, while it is there, it is probably more dangerous to leave the perch than sit it out. When the predator is above them, it appears that they are less secure and may therefore depart.
- 3.3.7. The major problem created by large numbers of starlings in urban areas is from their overnight roosts, containing perhaps several thousands of birds. Roosting sites can be on or inside buildings, or in trees, especially those in sheltered city squares.
- 3.3.8. The dispersal methodology using starling distress calls is very similar to that needed for rural roosts and again, we recommended that specialist advice should be sought from Scarecrow Bio-Acoustic Systems.
- 3.3.9. Birds have the greatest attraction to their breeding sites and it is generally considered that distress calls have limited, if any, effect against breeding birds. However, birds have a stereotyped breeding behaviour and this can be disrupted at any stage before eggs are laid.
- 3.3.10. Roof-nesting gulls are a relatively recent and rapidly spreading problem. Action is usually requested against these birds when nest site tenacity is at its greatest, they have full clutches of eggs or chicks, and the adults dive-bomb residents and visitors to the building.
- 3.3.11. Again this has to be considered in terms of an Integrated Bird Management System; the breeding activity of herring gulls sometimes begins as early as January, with the dominant males return to the colony to establish their territories. These appear to be loosely maintained until the start of the breeding cycle gets underway, when they are vigorously defended as they attract a mate. Following courtship and copulation, a nest is made of local materials and the sight of the empty nest stimulates the female to drop an egg in it and she continues to do this until there is a full clutch. The sight of the latter causes her to sit on the eggs to incubate them until they hatch. If the eggs are removed, the empty nest causes the female to lay again and if the eggs and nest are removed, the effort of rebuilding the nest and re-laying a full clutch of eggs may cause the birds to desert the site.
- 3.3.12. Strange as it may appear, the initial action before using distress calls against roof-nesting gulls is to get a broom to clean the roof of all the old nesting material. If the gulls have to leave their territory to get nesting material the task is made more difficult. Thereafter, the roof

should be regularly swept or hosed down and this will delay or disrupt the breeding activity. Broadcasting distress calls as the gulls attempt to return reduces the attraction of the site by creating a general disturbance.

- 3.3.13. If the cleaning and disturbance programme is not maintained, at the weekend for example, and birds do lay eggs, it is too late to use distress calls for effective dispersal.

3.4 AUTOMATIC DISPERSAL SYSTEMS : **SCARECROW MARINA AND ONE-SHOT**

- 3.4.1 There are situations which require the broadcast of bird distress calls even when there are no humans present or human involvement is not possible or desirable. Examples will be inaccessible structures, marinas, harbours, docks, oil and gas platforms, car parks, outdoor restaurants.
- 3.4.2 MARINA and ONE-SHOT are fully automatic, random play, systems that can be programmed to function 24 hours a day or, for example, from dawn to dusk. It cannot be used on airfields where its (automatic) function could promote a severe flight safety hazard.
- 3.4.3 Each system will comprise a central MARINA or ONE-SHOT processor and a number of loudspeakers whose quantity and location will have been determined by specialist SCARECROW engineers from plans/layouts of the site to be cleared. There are various other considerations: prevailing wind direction, geographic position, proximity to housing etc.
- 3.4.4 The whole objective is to create an environment that is always regarded by the problem birds to be hostile and to giving the impression that there will be other locations for their use that are less stressful, hostile or potentially dangerous. Anything for a quieter life.
- 3.4.5 Experience shows that such systems are often spectacularly successful; because the calls used are natural, played at a natural level, the general public, as local residents or visitors, do not comprehend that dispersal processes are in place, merely that they cannot see the birds they hear.

4. BIRD DISPERSAL PROGRAMMES

- 4.1 When planning a daily bird control programme take into account the manner in which birds have responded historically to dispersal activity; be aware of the various flight paths that birds use to and from the area. Familiarity will enable the minimum delay before implementing dispersal procedures. The early interception of approaching birds before they land will deny the birds the opportunity to settle; the effect of subsequent dispersal action, if necessary, will thus be increased.
- 4.2 Often the dispersal of small numbers of birds may not appear to warrant the required effort but it must be emphasised that birds in flight frequently join other birds already on the ground. A relatively small number of birds can form the core from which a large flock congregates.
- 4.3 We hope this very simple guide is useful in focusing on the problems that may be experienced and, in seeking solutions, some of the pitfalls to be overcome.
- 4.4 We do aim to be helpful, so please contact us on any specific problem which, with your help, we will try to resolve. If we cannot, we'll direct you to an expert without hesitation.

5. BIRD DISPERSAL : AN INTEGRATED BIRD MANAGEMENT SYSTEM

5.1 An effective Integrated Bird Management System at first sounds very complicated but is effectively the use of common sense in Professional Pest Control. This appears to be a flippant statement but it has become so very simple while chasing new methods or creating new equipment to lose sight of the basic problem. For example, in many areas we seek to ease the symptoms to satisfy the immediate needs of the client rather than eradicate the root cause.

5.2. What is the problem?

A fundamental requirement is to correctly identify the problem. Birds are capable of creating a number of different problems and the same species can be seen as both friend and foe, depending on one's outlook. When called to investigate a bird pest problem what are we looking for and, how does this equate to the requirements of the client? In many cases, the client is only interested in removing the visible symptom, such as the presence of droppings. This is a cleansing problem and not pest management.

5.3 What is causing the problem?

The visible symptoms are droppings, clean away the droppings and the problem is solved? Unfortunately not the case, the problem is the depositors of the droppings and why they happen to be at the particular site. Birds need secure sites to roost, rest, feed and breed in, therefore, the attractions of a particular site should be identified before control action of any sort. The attraction to gulls presented by a landfill is easy to identify and is removed by changes in materials tipped, exclusion netting or active bird control using distress calls. If the birds cannot feed there is no attraction!

5.4 Remove the attractions.

Sometimes this is easier said than done. However, if the attractions remain, the birds will always attempt to return. Deny the problem birds access to food, remove the safe perches and breeding sites, etc. Nothing else will reduce the numbers so effectively.

5.5 Remove the birds.

Some birds will persist in their attempts; the client may not be able to prevent staff from inadvertently or deliberately feeding the birds and it is not possible to remove all the attractions at every site.

Whether the control method chosen is by lethal means or "scaring" it must be remembered that no single method is 100% successful for 100% of the time. Additionally, not all bird control methods disperse birds, some are more subtle confidence tricks.

5.6 Bird Control Organisation: how SCARECROW BIO-ACOUSTIC SYSTEMS LTD. can help.

In order for bird control to be successful, staff must be organised and trained in the correct use of the available techniques. Some appear ridiculous to us as humans but if, by their novelty value alone, they keep birds away from a particular site for the two or three days when that site is vulnerable to "damage", we need recommend nothing else. Most problems usually last for much longer than a couple of days.

5.7. How is an Integrated Bird Management System applied?

This is simplicity and yet, to some, it is an obstacle of immense magnitude - especially with some clients. Whatever is recommended they then see as the total answer - some professional pest controllers maintain the same view!

- 5.7.1. If a problem is not examined using IBMS, unnecessary treatments may be applied in true "sledge hammer" fashion. In addition, we are able to indicate the client's day to day responsibilities so that these do not disadvantage whatever treatment we advocate or install.
- 5.7.2. By identifying the attractions to birds in a "problem situation", we are able to differentiate between a true pest control and a straightforward cleaning problem.
- 5.7.3. The bird problem at a fast food Drive-Thru is the result of an abundant food supply – not a matter for pest control, or expensive equipment – just a broom! In other areas, it may not be so straightforward, especially where the public is present.

THIS GUIDE FOR PRACTICAL USAGE WAS WRITTEN BY N. H. BIRD MANAGEMENT

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