



Wild Bird Deterrents

This publication is based on the report *Evaluating the effectiveness of wild bird deterrents in Poultry Operations for Avian Influenza Control: A literature review*, written by Dr Alex-Kate Langfield, Director – Hatch House. The research was funded by Australian Eggs and the entire final report can be found on the Australian Eggs website.



Why wild bird deterrents matter for poultry biosecurity

Wild birds, particularly migratory waterfowl, are major natural reservoirs for Avian Influenza (AI) viruses. They can introduce infection to poultry farms through direct contact, contaminated water, or environmental contamination via droppings and feathers. In free-range operations, where poultry have outdoor access, the risk is significantly higher. Implementing bird deterrent strategies is critical to maintaining strong biosecurity and helping to create a protective buffer zone to reduce interactions between poultry and farms.

Key Points

› Wild birds as disease vectors

Wild birds can carry both Low Pathogenic Avian Influenza (LPAI) and Highly Pathogenic Avian Influenza (HPAI) without showing signs of illness, silently spreading infection.

› Transmission pathways

Infection can occur through direct mingling, contaminated feed and water, or environmental surfaces tainted with infected droppings or feathers.

› Higher risk for free-range systems

Outdoor ranges attract wild birds with food, water, and shelter. Free-range poultry farms are inherently more exposed compared to indoor systems.

› Why deterrents are essential

Deterrents help create a "protective buffer zone" that reduces the chance of wild birds interacting with poultry, feed, or water. No system is perfect, but effective deterrents can significantly lower risk.

› Types of deterrents

Effective programs typically use a combination of:

Visual deterrents

e.g., reflective tape, hawk kites.

Auditory deterrents

e.g., distress calls, cannons.

Habitat modification

e.g., grass management, pond covers.

Implementation tips

- › Integrate multiple types of deterrents to avoid bird habituation.
- › Target high-risk areas: feed storage, water sources, outdoor ranges.
- › Monitor wild bird activity regularly and adapt deterrent strategies as needed.

Key takeaways

- › Wild bird control is a crucial line of defense against AI outbreaks.
- › Single deterrents rarely work long-term; a layered, adaptive approach is best.
- › Proactive management reduces risk to flock health, farm profitability, and compliance.



Visual deterrents for wild birds:

Pros, cons, and best practice

Visual deterrents rely on birds' keen eyesight and natural fear responses to perceived threats. Used properly, they can be an effective tool for keeping wild birds away from poultry areas, particularly outdoor ranges and feed storage.

Key points

› How visual deterrents work

Birds react strongly to movement, bright reflections, and predator shapes. Good visual deterrents tap into these instincts to scare birds away.

› Types of visual deterrents

Effective programs typically use a combination of:

Reflective materials

Tape, mirrors, old CDs that flash light unpredictably.

Predator decoys

Static or moving models of hawks or owls. Hawk kites and balloons are more effective than static decoys.

Lasers

Green laser beams effectively disperse birds during low light times (dawn/dusk).

› Strengths

- ✓ Low cost and easy to deploy.
- ✓ Immediate visual impact.
- ✓ Can cover large areas with minimal labour.

› Limitations

- Birds can quickly habituate to static deterrents.
- Must be varied or moved regularly to stay effective.
- Some species may not react strongly to certain visuals.

Implementation tips

- › Rotate devices every few days to prevent birds from becoming accustomed.
- › Combine deterrents: e.g., a hawk kite with reflective streamers.
- › Use lasers during high-risk times (early morning, late evening) for maximum effect.
- › Monitor bird activity and adjust placements regularly.

Key takeaways

- › Visual deterrents are valuable but need active management.
- › Always vary movement, placement, and types used to avoid habituation.
- › Best used as part of a wider bird deterrent program.



Auditory deterrents:

Using sound to keep wild birds away

Auditory deterrents rely on birds' natural fear of certain sounds – predator calls, distress calls, or loud bangs. These are especially effective against waterfowl and passerines when used correctly.

Key points

> Types of auditory deterrents

Propane cannons

Loud bangs at set or random intervals.

Distress and alarm calls

Species-specific recordings that warn of danger.

Sonic nets

Broad-spectrum sound to interfere with bird communication.

> Best frequency ranges

Most waterfowl respond best to sounds between 1000–4000 Hz. Ultrasonic devices are ineffective.

> Strengths

- ✓ Immediate dispersal of birds.
- ✓ Can cover large areas.
- ✓ Useful during outbreak or migration season.

> Limitations

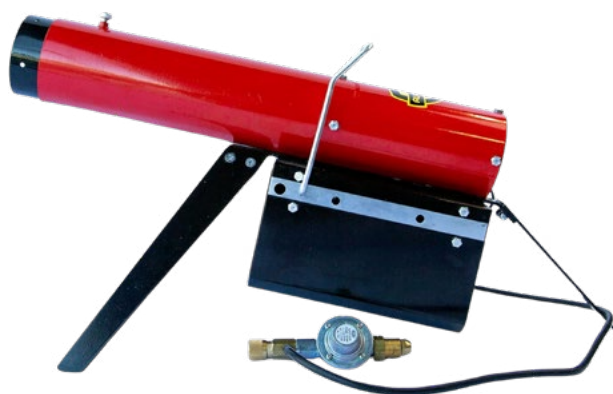
- Rapid habituation if sound is predictable or unpaired with real consequence.
- Risk of distressing poultry or neighbouring communities.

Implementation tips

- > Use species-specific alarm or predator calls. Randomise timing and sound location.
- > Pair sound with visual movement or a real presence (e.g., dog, person).
- > Avoid overuse – reserve for high-risk times.

Key takeaways

- > Audio deterrents work best in short bursts and in combination with other deterrents.
- > Avoid static or repetitive patterns to reduce habituation.
- > Consider poultry welfare and neighbour proximity.



Habitat modification: Making your farm less attractive to wild birds

Many wild birds are drawn to poultry farms because of available food, water, and shelter. Habitat modification is a long-term strategy to make the environment less attractive.

Key points

› Key attractants

- Open feed.
- Standing water.
- Tall grass for foraging.
- Uncovered structures.

› Modification strategies

Reduce Grass Height

Maintain short pasture around poultry ranges.

Drain or Cover Ponds

Waterfowl are strongly attracted to open water.

Install Exclusion Netting

Prevent birds from entering sheds or feed areas.

Use Endophyte-Infused Grasses

Some varieties deter grazing.

› Strengths

- ✓ Reduces long-term wild bird pressure.
- ✓ Often aligns with broader biosecurity upgrades.

› Limitations

- Requires upfront effort and maintenance.
- May not yield immediate results.

Implementation tips

- › Map attractant zones on your farm.
- › Start with high-traffic areas near flocks.
- › Combine with active deterrents during migration.

Key takeaways

- › Habitat modification is foundational to a long-term deterrent plan.
- › Especially important for free-range or near wetland systems.
- › Less labour intensive over time than active scare tactics.



Chemical and reproductive deterrents:

Long-term wild bird control

Chemical and reproductive deterrents work over time to reduce wild bird presence or population. These are useful for persistent species or areas where scare tactics alone don't work.

Key Points

> Chemical repellents

Methyl Anthranilate (MA)

Causes mild irritation or bad taste.

Anthraquinone

Causes mild illness on ingestion, leading to learned avoidance.

> Reproductive control

Nicarbazin

Prevents hatching when consumed consistently.

Egg oiling

Stops embryo development.

> Strengths

- ✓ Reduces population pressure.
- ✓ Minimally disruptive to existing poultry operations.

> Limitations

- May require regulatory approval.
- Reapplication needed (e.g., after rain for MA).
- Community-scale action is often more effective than single-site use.

Implementation tips

- > Use during high-risk seasons or when flocks arrive.
- > Consider placing sacrificial feed laced with deterrents away from poultry areas.
- > Monitor for non-target impacts.

Key takeaways

- > Long-term deterrents support population-level control.
- > Ideal for pigeons, ducks, or other repeat visitors.
- > Always use in combination with physical deterrents.



The hidden risk in bird deterrent programs

Birds are smart and adaptable. One of the biggest challenges in deterrent programs is habituation – when birds get used to a scare and ignore it. Understanding and managing this is key to long-term success.

Key points

› What is habituation?

Repeated exposure to a stimulus without consequence causes birds to stop reacting.

› High-risk tactics

- Static owl decoys.
- Fixed-timing propane cannons.
- Overused distress calls.

› How to prevent it

- Vary timing, placement, and type of deterrents.
- Pair scare tactics with real consequences (e.g., human presence).
- Limit use to high-risk periods.

› Signs of habituation

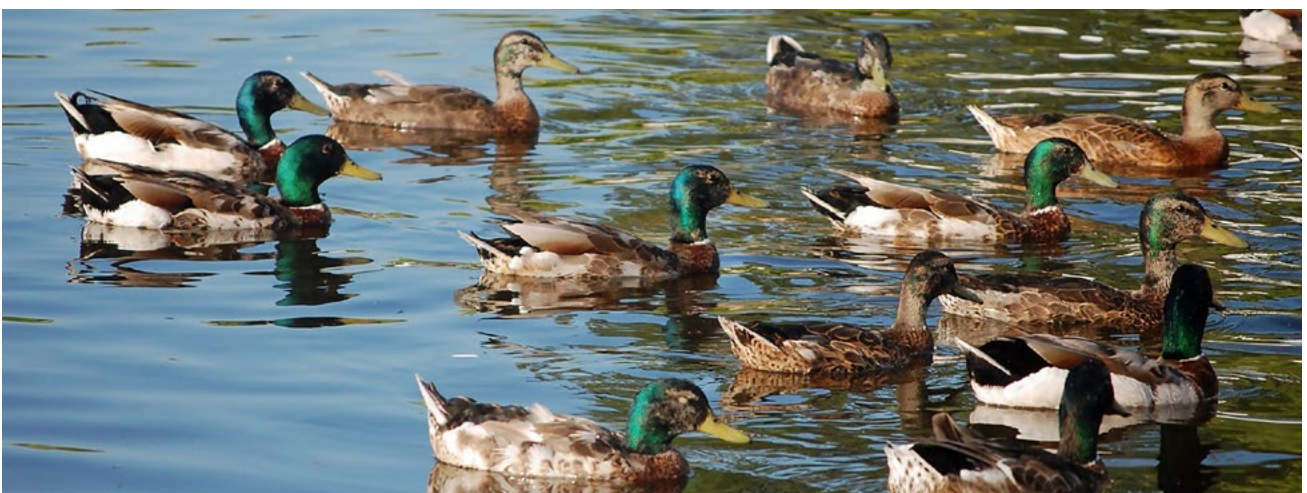
- Birds return quickly after initial deterrent.
- Feeding or roosting resumes in treated areas.

Implementation tips

- › Rotate devices weekly.
- › Pause certain tactics for a period, then reintroduce.
- › Use multi-sensory strategies: sight + sound + habitat.

Key takeaways

- › Habituation weakens your defence line over time.
- › Dynamic, rotating, and varied strategies are most effective.
- › Treat deterrent programs as ongoing, not set-and-forget.



Building a wild bird deterrent plan for your poultry farm

No single deterrent works forever or everywhere. The most effective approach is a tailored, integrated strategy that reflects your farm's layout, location, and bird pressure.

Key points

> The layers of an effective plan

Visual

Kites, lasers, reflectors.

Auditory

Distress calls, propane cannons.

Habitat

Short grass, pond removal, feed management.

Chemical/Fertility

Repellents or contraceptives in some cases.

> Start with risk mapping

- Where are birds entering?
- Where do they roost or feed?
- What attractants exist?

> Design for rotation

- Swap tactics monthly or seasonally.
- Use real-time observations to adjust.

> Monitor outcomes

- Log bird activity weekly.
- Adjust plan if deterrent success drops.

Implementation tips

- > Assign one person to manage deterrent tools.
- > Keep records of effectiveness.
- > Be prepared to trial and adjust.

Key takeaways

- > A well-layered deterrent plan increases protection against AI.
- > Success requires observation, adaptation, and consistency.
- > Free-range systems especially need multi-modal approaches.

