

# Humane Euthanasia

## Assessing Techniques



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While landlords can manage European Starling competition using starling resistant entrances, there is no easy solution to competition from House Sparrows. Eventually all landlords must answer the question of what to do when House Sparrows set their sights on your colony.

From 1850 through the 1890s, numerous introductions of House Sparrows were made throughout North America. We look back on these choices with the benefit of hindsight, seeing now what damage these birds have done to our native species. However, there was no widespread understanding about the risks of introducing non-native wildlife into an ecosystem. Some introductions

were solely meant to establish a wildlife species that was familiar to European immigrants. While others sought to establish them as vectors of insect control...the fact that insects are only a significant portion of a House Sparrow's diet during the nestling stage either unknown or unimportant to the parties involved. Regardless of the reasoning, House Sparrows quickly gained a foothold and spread across the continent. It quickly became apparent how terrible of a plan this was, as evidenced by the formation of groups dedicated to the eradication of the invasive species. But it was all too little, too late. The genie was out of the bottle.

The prolific breeding capacity of the House Sparrow, along with its long breeding season, and nonmigratory nature allow it to have established breeding territories by the time martins return. This fact, plus the vigilance with which House Sparrows defend and establish territories, puts them on a collision course with martin landlords. Inevitably, landlords must deal with sparrows if they wish to establish or maintain a healthy Purple Martin colony.

House Sparrows and European Starlings are left unprotected by the Migratory Bird Treaty Act of 1918, making elimination of these non-native invasive species permissible. This allows landlords an important tool in the struggle against these invasives.

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However, lethal control of these birds is one of the biggest barriers to recruiting new landlords into martin conservation. Many prospective landlords are deterred by the prospect of sparrow euthanasia as a colony management tool. They, of course, haven't seen the shocking damage that a little House Sparrow can do to a Purple Martin colony. However, confrontation with grisly details and photos may also turn people away before they have an opportunity to consider the hobby. Doubtless, even some dedicated PMCA members reading this article are reluctant to euthanize House Sparrows.

There are other methods to discourage sparrows that are useful tools for every landlord. Keeping housing closed until the first martin's arrival in your area can prevent them from establishing a presence in your colony. Nest tear-outs are the first line of deterrent in hopes that sparrows move to a less disturbance prone area. But eventually sparrows will come that will not leave despite these efforts, leaving lethal control as the only alternative remaining.

Many landlords opt to shoot the offending birds with pellet guns or larger caliber weapons. However, not everyone lives in an area where shooting is legal or is able to hit their target. Even then, not every hit is fatal. Traps are the remaining tool in the arsenal. Designs exist for every type of house you can imagine. The final step is where the landlord comes face to face with the task of euthanasia. Many landlords are able to reconcile this task with an awareness of the greater good being served...maybe they've been

unfortunate enough to witness the loss of native species at the beaks of House Sparrows. But the hands-on dirty work is where many find they can't do it.

Indeed the techniques used in the past and some of the present are literally hands on. Perhaps with an assessment of the humaneness of the different techniques, we can reassure those on the fence that death is quick and painless and maybe give them a new technique to use along the way that they find less unpalatable. The American Veterinary Medical Association (AVMA) actually releases a Guideline for the Euthanasia of Animals with the goal of recommending techniques that minimize pain and discomfort for the animals being euthanized. We can use this guide's section on wild bird euthanasia to inform our recommendation of techniques.

One technique that was previously recommended but no longer is by the AVMA is thoracic compression. This method of squeezing a bird's body to prevent breathing and inhibit blood flow was once widely used due to its simplicity. Research now shows that this technique causes significant pain and distress in birds that are not anesthetized prior to the maneuver. As such, this is not considered a humane method of wild bird euthanasia. The two common techniques that remain as humane methods are cervical dislocation and the use of inhaled agents.

Cervical dislocation is the only mechanical method of euthanasia considered acceptable on a conscious bird, but with a caveat. This technique is considered by the AVMA acceptable


only with experience/training. Anyone who has employed this technique of using the thumb and forefinger of one hand to grip the skull and the other hand to grip the body, dislocating the spinal column with a sharp pull, can attest to the fact that the slightest flaw in technique can lead to a less than immediate death for the bird. Cervical dislocation can prove to be too much of a hands on method for those uneasy with the idea of lethal control.

The technique considered most humane by the AVMA (besides injected anesthetic) is use of an inhaled agent. Birds lungs are highly efficient at gas exchange (an effective adaptation for long duration activity such as flying), leading them to succumb to inhaled gases quickly. This is the reason that birds were historically used to detect gas buildups in the mining industry. Modern inhalant anesthetics are obviously beyond the reach of the average citizen. However ether, which had widespread use as an anesthetic in the 19th and 20th centuries, is a major component of engine starting fluid which is easily obtainable. Unfortunately, ether is extremely flammable and is extremely dangerous in enclosed spaces, and some modern starting fluids contain many other hazardous chemicals besides ether. For that reason, the PMCA does not recommend its use.

The most available and safe gas for euthanasia is carbon dioxide. Carbon dioxide acts as both an analgesic (preventing pain) and an anesthetic. If introduced slowly into a chamber after a bird is placed inside, it leads to death with no apparent stress response. Slowly increasing CO2 levels



prevents panic and prevents irritation from acid formation on the mucous membranes. Compressed carbon dioxide is widely available in a number of different sized containers at hobby and industrial suppliers. Recently, portable valves meant to inflate bicycle tires with CO<sub>2</sub> in an emergency have reached the market. At the PMCA, we have created a portable euthanasia chamber utilizing one of these devices. The small size of the valve and compressed gas cylinders makes it easy to use in the field. This has become a valuable tool for our field staff to use in addition to cervical dislocation depending on the circumstances.

Euthanasia of non-native competitors is an unfortunate reality of conservation for any cavity nesting species. Some landlords struggle with the ethical and moral dilemma of taking one life to save another. At the PMCA we want to provide medically informed recommendations on the many techniques of bird euthanasia available. These recommendations change over time as research on bird physiology progresses. It is a difficult subject, but an extremely important one that all landlords eventually must deal with. 

## DIY CO<sub>2</sub> Enclosure

### Materials needed:

- Plastic container (Smaller is better as it restrains the bird and uses less gas...should be clear to allow monitoring of bird's condition.)
- CO<sub>2</sub> cartridge valve (Sold as bicycle tire inflator)
- Compressed CO<sub>2</sub> cartridge
- 3 ft of correctly sized vinyl tubing that snugly fits the output of the valve without leaking (ours was ¼" outside diameter, yours may vary)
- Drill with bit sized to outside diameter of the vinyl tubing

### Directions:

1. Drill two holes in opposite sides of the lid. (second hole will allow fresh air to escape as CO<sub>2</sub> flows)
2. Snugly insert one end of the tubing into one hole of the lid.
3. Insert other end of tubing into the output of the valve.

### How to use:

To use, place non-native bird into enclosure and close the lid. (to prevent escape, you can place the bird into a small, thin fabric bag or sock and place both inside) Very slightly open the valve to slowly replace the air with CO<sub>2</sub>. The bird will quickly be anesthetized and soon after, breathing will stop. To ensure the bird has expired, leave in the enclosure for a few minutes.

*\*Note: nestling birds are resistant to high CO<sub>2</sub> levels and will require much longer CO<sub>2</sub> exposure times. This technique is not ideal for euthanasia of hatchlings/nestlings.*

