

# Invasive species: rock dove

[Science](#), [Biology](#)



To continue discussing Rock Dove and the issues involved with being considered an invasive species, it is important to understand the origins of the Rock Dove species. This paper will not only describe some problems associated with this invasive species on environmental and economical levels, but a few means of control suggestions will also be discussed. This paper will also describe important background information that is pertinent to understanding why and how the Rock Dove has become an invasive species. The Rock Dove, *Columba livia*, is also called the Rock Pigeon.

The species of Rock Dove we typically see today are actually descendents on the evolutionary line of the early Rock Doves. The majority of the Rock Doves that are causing so many problems are actually feral pigeons. Let's begin with the history of the domestic Rock Dove. The Rock Dove is believed, based on fossils and research, to have originated somewhere in the Far East approximately 310, 000 years ago (Johnston and Janiga, 1995). Humans quickly learned these birds provided a year-round meat source. They built dovecotes, pigeon houses, for them.

During these early years, it was discovered that the Rock Dove had an uncanny sense of direction and could return to their homes after traveling long distances. The birds became carriers to send messages to various destinations. Unfortunately, because the dovecotes were open to allow the Rock Doves to travel freely, many escaped. While merely an assumption, many researchers believe that wild Rock Doves were captured and re-domesticated once again. Their descendents were later introduced to America around 1606 by the French (Link, 2005).

From that point wild Rock Dove became feral Rock Dove. Exact population counts are not available, however many cities that are over-populated by feral Rock Doves have a high density amount. The doves have become quite successful in adapting to, and populating, noisy cities (Haag, 2008). Feral doves have proven to be a nuisance on two main levels: environment and economics. Environmental issues are both atmospheric and humanistic. In their areas of nesting, roosting, and feeding, the feral dove groups leave large amounts of fecal matter.

While long-term exposure to fecal matter causes corrosive damage to buildings, statues, park benches, etc, causing economic damage, more importantly the fecal matter is hazardous to humans and other animals (Link, 2005). The fecal matter of the Rock Dove, as with many other wild birds, is a carrier of many health-damaging diseases and viruses. The *Campylobacter* bacterium infects a human's gastrointestinal tract and causes symptoms similar to food poisoning. The *Salmonella* bacterium also causes food poisoning symptoms.

More recently, the Avian Influenza Virus and Avian Paramyxovirus have been linked to the fecal matter of many wild birds, such as the feral dove (Lillehaug et al, 2005). Contamination of agricultural crops and water sources is the main transmitter. Domestic poultry, such as chickens, can also be contaminated by coming in contact with infested fecal matter (Lillehaug et al, 2005). According to research, the feral Rock Dove is very susceptible to the Avian Paramyxovirus. In addition, many otherwise healthy wild Rock Dove can be carriers for almost 50 other diseases and viruses.

These include the Campylobacter and Salmonella bacterium (Lillehaug et al, 2005). Control and prevention are vital in reducing population numbers. President Clinton signed an order in February 1999 that established the National Invasive Species Council. This organization's purpose is to supervise management plans used by federal agencies. These agencies are responsible for preventing introduction and establishment in the United States of any pests, including animals that endanger or may endanger resources.

They also keep control of any existing species (Bergman, Chandler, and Locklear, 2000). The best method to avoid any conflicts between humans and Rock Dove populations is to modify buildings with attractive possible nesting and roosting sites. The most effective way to accomplish this task is to install barriers on ledges, overhangs, and other such areas. A porcupine-type wire system is a non-lethal barrier that provides temporary discomfort to any Rock Doves who land where the wires are installed. Barriers are considered a form of behavior modification (Link, 2005).

Some buildings have electric shock systems installed on larger areas or statues where porcupine systems are not practical (Haag, 2008). Some forms of lethal control can be used as a permanent solution, if previous efforts have failed and the Rock Doves continue to pose a threat to human health. Trapping the birds and setting them free at another location is not efficient because they can return (Link, 2005). Most trapping is used in conjunction with euthanasia (Williams and Corrigan, 1994). Toxic baits are used, generally with contact poisons, as a permanent solution to the problem.

At one point fenthion was used, but it is no longer available. Toxic perches should be used by an authorized, experienced person (Williams and Corrigan, 1994). Pesticides can also be used. DRC-1339 is a limited-use pesticide that is highly effective against Rock Doves. It is somewhat safer, in comparison, to other pesticides because the sensitivity to it in other animals is marginally lower. This pesticide is registered for use only by USDA Wildlife Services employees (Williams and Corrigan, 1994).

An experimental capture-and-release program was implemented in Ohio. The technique required the usage of an anesthetic called Alpha-chloralose. It allows the trappers to safely transport the doves without any injuries to either party. Unfortunately, this method produced low results, due to low capture rates (Belant and Seamans, 1999). While these birds are problematic in quite a few ways, they are still animals, however wild or people-friendly they may be. Behavior modification techniques have been proven successful for years.

Limiting nesting and roosting sites, feeding locations and amounts, and reducing available water sources will provide a more long-term solution to the economical and environmental problems caused by this invasive species. Promoting education and public awareness is the first step. Monitoring and reporting programs are vital in diagnosing and controlling problematic areas and reducing problems (Marzluff and Sallabanks, 1998).

## **Works Cited**

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