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NWRC Research Areas: Feral Swine and Ungulate Research

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Our scientists are developing and optimizing control strategies and products that are integrated into management for reducing destructive impacts of feral swine and other ungulates.

Feral swine populations are difficult to manage across their introduced, invasive range. Their ability to reproduce quickly and adapt to a wide variety of habitats has allowed them to persist and expand, resulting in extensive damage to agricultural, natural, and human resources.

Found in at least 35 States, feral swine cause an estimated \$2.5 billion in damages and control costs in the United States each year, with at least \$800 million of this estimate due directly to agriculture. Examples of the pervasive damage feral swine cause include the following:

- Destroying native habitats, crops, lawns, and river banks through rooting and wallowing
- Eating and destroying agricultural crops
- Competing with native wildlife for food and other resources
- Carrying or transmitting over 30 diseases and parasites
- Contaminating human food sources and water supplies
- Destroying property and fences
- Impacting ground nesting birds and various small vertebrates and invertebrates
- Consuming livestock feed and supplements and fouling water sources
- Colliding with vehicles

The APHIS Wildlife Services (WS) program provides technical advice to landowners, State agencies and others, as well as direct management assistance for feral swine problems in more than 30 States. This is often necessary because hunting alone cannot resolve feral swine conflicts with humans. WS experts provide a 3-pronged approach that involves management, disease surveillance, and research.

WS researchers at the National Wildlife Research Center (NWRC) support this effort by studying a variety of issues such as feral swine behavior and ecology, disease transmission, and the development of new management tools and techniques. Recent efforts have evaluated the effectiveness of an oral toxicant bait and feral swine-specific bait delivery systems, in addition to research focused on optimizing preparedness for an introduction of African swine fever virus in feral swine.

Managing Ungulates

Another primary focus of APHIS is protecting the health of livestock, including captive cervids (e.g., deer and elk), realizing that the health of wild cervids affects that of livestock, and vice versa. The role of NWRC's research in this area is to address scientific questions that will lead to a better understanding of the diseases and to develop means to manage and control them. NWRC scientists are highly qualified to research disease transmission at the interface between wild and domestic ungulates because of their expertise in cervid and disease ecology, biology, and management. Scientists and disease specialists are actively involved in the development of new surveillance systems capable of improving detection of diseases of in wildlife, including development of surveillance tools measuring volatile organic compound biomarkers present in the feces of wildlife infected with bovine tuberculosis (bTB) and chronic wasting disease (CWD). Once more is learned about the ecology of these diseases; the cervids and other species affected; and the transmission, prevalence and persistence of bTB and CWD in wild and captive cervids, the knowledge can be used not only for disease management but also to educate the public about associated transmission risks.

Project Goal and Objectives

Goal: Develop new knowledge, strategies, and products that are integrated into management to optimize tools and methods for mitigating impacts caused by feral swine and other ungulates.

1. Develop feral swine and other wildlife damage control and mitigation methods.
2. Determine factors involved in the transmission of diseases in feral swine to livestock and humans.
3. Determine factors impacting feral swine and other wildlife damage to agriculture, natural resources, and property.
4. Ungulate movements and disease ecology.
5. Disease detection and managing disease transmission at the wildlife-livestock interface.
6. Provide service assistance to stakeholders and to other projects

Related links

- [Feral Swine and Ungulate Impacts](#) (Peer Reviewed Publications)
- [Feral Swine – WS Wildlife Damage Management Technical Series](#) (8.46 MB)

- [Aging Feral Swine in the Field Tech Note](#) (4.77 MB) (Tech Note)
- [Estimating Feral Swine Damage to Row Crops Just After Planting](#) (2.73 MB) (Tech Note)
- [Estimating Feral Swine Damage to Low-growing Row Crops at Harvest](#) (2.73 MB) (Tech Note)
- [Using GPS Measurements to Estimate Damage](#) (879.34 KB) (Tech Note)

Contact Us

Kurt VerCauteren

Project Leader

Email: kurt.c.vercauteren@usda.gov

Phone: [970-266-6093](tel:970-266-6093)

Fax: [970-266-6089](tel:970-266-6089)

National Wildlife Research Center

4101 LaPorte Ave. 1

Fort Collins, CO 8052

TEAM MEMBERS

[Nathan Snow](#), Supervisory Research Biologist

[Kim Pepin](#), Supervisory Research Biologist

Michael Lavelle, Wildlife Biologist

Justin Fischer, Geographer

Michael Glow, Wildlife Biologist

Abigail Feuka, Biological Statistician

Keely Kohen, Biological Science Technician

Kayleigh Chalkowski, Computational Biologist

Matthew Combs, APHIS Science Fellow – Biologist

Joshua Hewitt, Statistician

Grete Wilson-Henjum, Data Scientist/Biologist

Lauren Smith, Software Developer

Kelly Koriakin, Wildlife Biologist

Aung Chan, Postdoc – Arizona State University

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