Human Dimensions, National Feral Swine Initiative, and Approaches to Feral Swine Management

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The mission of USDA/APHIS/Wildlife Services (WS) is to provide Federal leadership and expertise to resolve wildlife conflicts to allow people and wildlife to coexist.
Feral Swine

- Same species, *Sus scrofa*, as domestic pigs
- Descendants of escaped or released pigs
- Other names:
  - Wild boar, wild hog, razorback, piney woods rooter, Russian boar, or Eurasian boar
History

- Brought to the U.S. from Spain by early explorers and settlers as a food source
- Christopher Columbus (1493)
  - 8 hogs introduced in West Indies
- Ponce de Leon (1521)
- Hernando DeSoto
  - 1520s he controlled the Nicaraguan Indian slave trade
  - 1532 he was the calvary captain who conquered the Inca Empire
  - Returned to Spain in 1536
  - 1537 commissioned to conquer Florida and made governor of Cuba
May 1539 came ashore with 620 men, women, and Children, 220 horses, Spanish Mastiff “War Dogs” and 13 pigs.

Objectives
- Establish a Spanish colony.
- Spread the Catholic faith on the North American continent.
- Given permission to conquer and enslave the natives.

After wintering near Tallahassee, went on a 3 year, 3000 mile journey
- Fate of pigs
- Terrifying invisible legacy
  - Swine borne diseases
- Nearly 500 years later
Impacts

- Estimated $1.5 Billion each year
- Everyone is affected in some way
  - Agriculture
  - Natural Resources
  - Property
  - Pets & People
  - Cultural and Historic Sites
Human Dimensions

- The Enemy
- How society views pigs (4 Categories)
  - Nuisance
  - Resource
  - Victim
  - Invasive exotic species
Human Dimensions

- Nuisance

Frustrated residents seek alternative to shooting 'destructive' hogs

Wild pigs plow up yards, plague Flagler neighborhoods

By: Aaron Messner, FOX 13 News

POSTED: JUL 09 2010 05:32PM EDT
VIDEO POSTED: JUL 09 2010 06:08PM EDT
UPDATED: JUL 09 2010 06:15PM EDT

NO LIVE UPDATES

Most Popular
1. Authorities investigate Okeechobee farm with ill people, dead animals
   Oct 17 at 3:36 PM
2. Daytona Beach their crowd of 5,000 masts merchants
   Oct 6 at 5:24 PM
3. I-95 reopens after multiple wrecks
   Oct 4 in Palm Coast

Alberto Jones looks at consequences to his backyard on Blackfoot Court on Nov. 30 after wild hogs tore through several areas of Palm Coast's Woodlands neighborhood. (News Journal Matt Bruce)
Human Dimensions

- Resource
  - Hunters
  - Rancher & Farmers
• Victim

“It was like Vietnam outside my house.”

Residents nervous after helicopters used to shoot wild hogs in Charlotte County

The USDA is using helicopters to search for wild hogs and shoot them down.

Hogs can be a big issue if their population is not controlled. And it’s happening around one community in SWFL.

A normally quiet Sunday morning in a Rotonda West neighborhood was suddenly interrupted by the sounds of a low-flying helicopter and gun shots.

“It was like Vietnam outside of my house,” said Rotonda West resident Carol Abarbanell.

Abarbanell says she ran outside to see what was going on.

“I grab my binoculars and look up and there’s a long gun that a man is holding, shooting. Pop, pop, pop for about a minute and a half just shooting bullets into the ground,” she said.
Human Dimensions

- Invasive Exotic Species
Human Dimensions

- Challenges we face
  - Diversity of opinion/cultural importance
  - Private property (70%)
  - Lack of funding
  - Identify ways to work together
Our Roles

- To combat these threats
  - What are we currently doing, and how can we work together?

- The Players
  - FLDEP – Tip of the Spear
  - DOD
  - FWC
    - History
    - Increased hunting opportunities

- U.S. Forest Service
- USFWS
- Universities
- Water Management Districts, National Parks & Seashores, etc.
- USDA
In March, 2014 APHIS began receiving $20 million annually to implement a collaborative, national feral swine management program in states where there was a recognized feral swine population.

Primary Goal: Minimize damage caused by feral swine to protect agriculture and livestock, natural resources, property, and human health and safety.

Accomplished by:

1. Suppressing populations in states where feral swine populations are large and widely distributed

2. Eliminating feral swine in states where populations are low or newly emerging
Feral Swine Expansion

- By 2014, 6 million feral swine in 41 states

<table>
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<th>Year</th>
<th># States</th>
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<td>2017</td>
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<td>2018</td>
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## National Feral Swine Initiative

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<th>Program Support</th>
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<th>WS State Baseline Capacity:</th>
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<th>National Components:</th>
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<th>WS State Director Projects:</th>
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<table>
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<tr>
<th>Grand Total</th>
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<td>Feral Swine</td>
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**Note:** The table outlines the budget allocation for the National Feral Swine Initiative, including program support, state baseline capacity, national components, and state director projects, totaling $20 million.
Aerial Gunning

Take

FY 15  FY 16  FY 17  FY 18  FY 19

WS Wildlife Services
Protecting People
Protecting Agriculture
Protecting Wildlife
Aerial Gunning Operations

- General Protocol is straight-forward
  - A pair, 1 certified pilot and 1 gunner
  - Conduct low-level (<500 ft AGL) search patterns
  - Able to look straight down to easily identify targets (no non-target species have been taken in the history of the program)
  - 12 gauge shotguns
  - Only conduct ops where we have been given written permission
    - Work Initiation Document
  - Use GIS mapping and GPS flight tracking
Disease Surveillance

- Sampling for 3 national diseases of concern for Agricultural Industry
  - Swine Brucellosis (SB) - bacteria that causes abortions, lameness, paralysis of hind limbs, abscesses
  - Pseudorabies (PRV) – virus that causes paddling, respiratory distress, death
  - Classical Swine Fever (CSF) – virus that causes fever, abortion, bleeding, skin discoloration, death
    - Foreign animal disease, eradicated in US in 1978
Disease Surveillance

National level prevalence
CSF  0% (n=2937)
PRV  19.0% (n=2890)
SB   5.5% (n=2981)

SB Prevalance FY 11-17

PRV Prevalence FY11-17
Research Component

Toxicant Development

- Sodium Nitrite – active ingredient, food product/preservative for curing meat
- Bait formulation – black peanut paste with crushed grains
- Safe delivery system – bait boxes, 30 lbs. of resistance to open lids
- A registration package was submitted to EPA for anticipated use of the product by 2020

Methemoglobinemia – reduced ability of blood to transfer oxygen to tissues
New Approach to Feral Swine Management

- Way of thinking constantly evolving
- Keys to success
  - Know your enemy
  - Wild pigs are highly intelligent and educate easily
  - Social bonds
  - Reproductive potential
  - Removal of entire sounders
    - Adult sows
    - No one left to educate
- You gotta get TACTICAL!!
New Approach to Feral Swine Management

- Patience, Pre-Baiting, Discipline!
- Every property is different and will present its own challenges but you have to understand how to select bait sites
- Establish at least 2-3 bait sites for every trap you have
- Be aggressive
- Gather intel
  - Cameras are critical to success
  - Key to making tactical decisions
Tactical Decision Making
Tactical Decision Making
Traps
Traps
Remote Triggered Gates
BUILDING A BETTER HOG TRAP
Tactical Approach

- Get Aggressive but find balance by making disciplined decisions
  - Bigger corrals
  - More gates
  - More bait
  - More bait sites
  - Establish sanctuary zones around your bait sites
- Always be prepared to be opportunistic
- Keep moving!
Thermal

- Electromagnetic spectrum
  - IR requires technology to see it (Germanium)
- Infrared (near-IR, mid-IR, and thermal IR)
  - Emitted vs. Reflected
  - Captures light emitted by heat
    - Hot vs cooler objects
    - Transfers image to a monitor
Thermal

- **Applications**
  - Stand alone weapon sight or clip-on
  - Thermal imaging monocular
  - Open habitat (Ex. Ag)

- **First Rule of Firearm Safety**
  - Use a thermal monocular or night vision goggles
Night Operations

- Night vision applications
  - IR laser
  - Walk and hunt
  - Use to drive blacked out
    - Best if someone else scans with thermal monocular
  - Holographic sights
  - Cellular cameras and bait sites
Conclusion

- Integrated Wildlife Damage Management Approach (IWDM)
- Respect your opponent
- Patience, Pre-baiting, Discipline
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