

MANAGING PREDATION

Drew Ricketts – Wildlife Specialist

OUTLINE

- Livestock Predation Statistics
- Mortality Investigation/Predator ID
- Preventing Predation
- Lethal Control

THINK H.E.R.

- Habitat modification
 - Remove food, cover and water
- Exclusion
 - Repellents or fences
- Removal
 - Dead or alive



LIVESTOCK PREDATION

| Predator Species | % US Attacks Sheep | % KS Attacks Sheep | % US Attacks Lambs | % KS Attacks Lambs | % US Attacks Cattle | % KS Attacks Cattle | % US Attacks Calves | % KS Attacks Calves |
|-------------------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|
| All (% loss due to predation) | 33 | 13 | 40 | 24 | 2.4 | 0.2 | 11 | 4.7 |



LIVESTOCK PREDATION

| Predator Species | % US Attacks Sheep | % KS Attacks Sheep | % US Attacks Lambs | % KS Attacks Lambs | % US Attacks Cattle | % KS Attacks Cattle | % US Attacks Calves | % KS Attacks Calves |
|-------------------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|
| All (% loss due to predation) | 33 | 13 | 40 | 24 | 2.4 | 0.2 | 11 | 4.7 |
| Coyote | 47 | 72 | 59 | 46 | 40.5 | 68.2 | 53.1 | 84.4 |

- \$126,000 burden to KS goat producers
- \$625,000 burden to KS sheep producers
- \$4 M burden to KS cattle producers

* No confirmed predation on livestock by mountain lion in KS during modern times

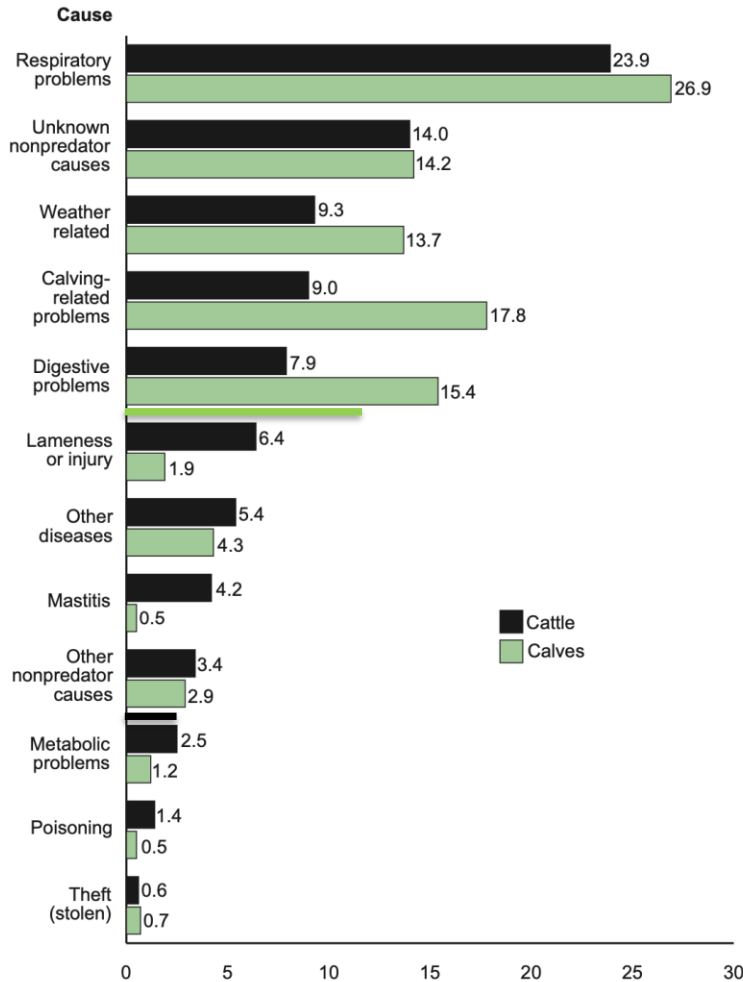
K-STATE
Research and Extension

Source: NASS Cattle Death Loss 2016; NASS Sheep Death Loss 2020; NASS Goat Death Loss 2015



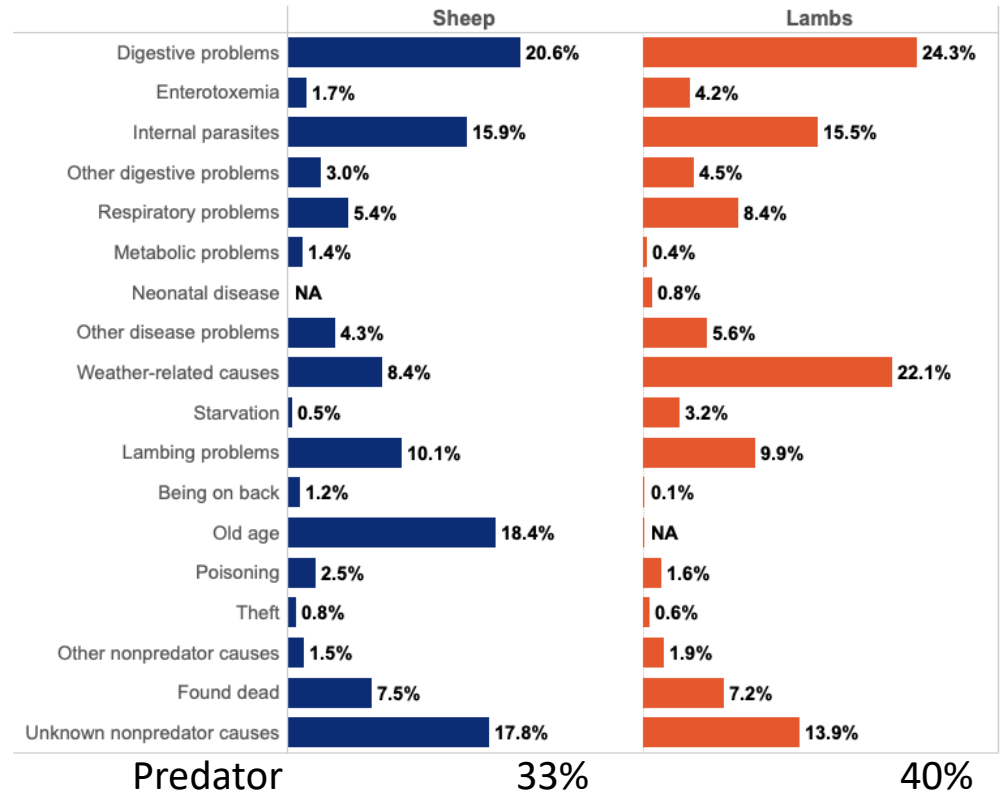
CAUSES OF MORTALITY

Percentage of cattle and calves death loss due to nonpredator causes, by cause



Predator Cattle: 2.4% Calves: 11%

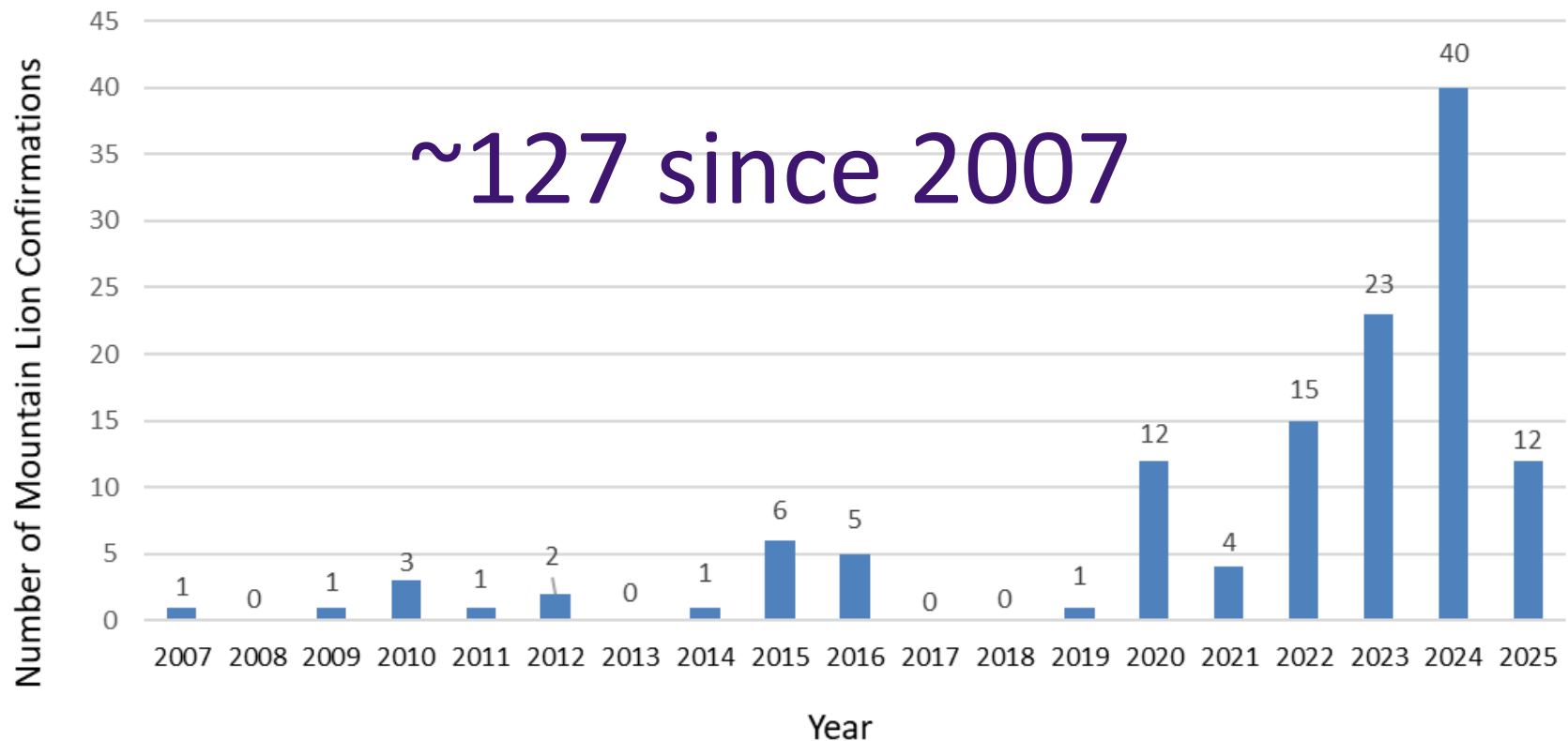
Percentage of nonpredator death loss in sheep and lambs in 2019, by nonpredator cause



Predator 33% 40%

MOUNTAIN LIONS IN KS

Mountain Lion Confirmation in Kansas since 2007



PREDATION OR SCAVENGING???

- First step is to determine cause of death



CAUSES OF MORTALITY

- Starvation
- Exposure
- Parasites
- Disease
- Bloat
- Poisonous plants
- Lightning



LIVESTOCK LOSSES



EVIDENCE OF PREDATION

- Facts from carcass remains
- Blood on soil and vegetation
- Tracks, scat and territorial markings near dead animal
- Carnivores observed in area
- Disappearance of young or small livestock
- Unusual livestock behavior

FACTS ON CARCASSES



FACTS ON CARCASSES



FACTS ON CARCASSES



FACTS ON CARCASSES



BLOOD



COYOTE PREDATION



- Attack focused on neck/throat in small ruminants
- Some attacks are unsuccessful – coyotes don't always hunt in groups



COYOTE PREDATION



- Attack focused on hind-quarters
- Tail may be removed
- Sometimes attack rostrum



- Additional sign often needed to rule out dog

DOG PREDATION



- Wounds on legs, concentrated on back end

- Apparently run to exhaustion

DOG PREDATION



- Face mutilated, lack of feeding
- Tracks or scat may be needed to distinguish from coyote damage

DOG PREDATION

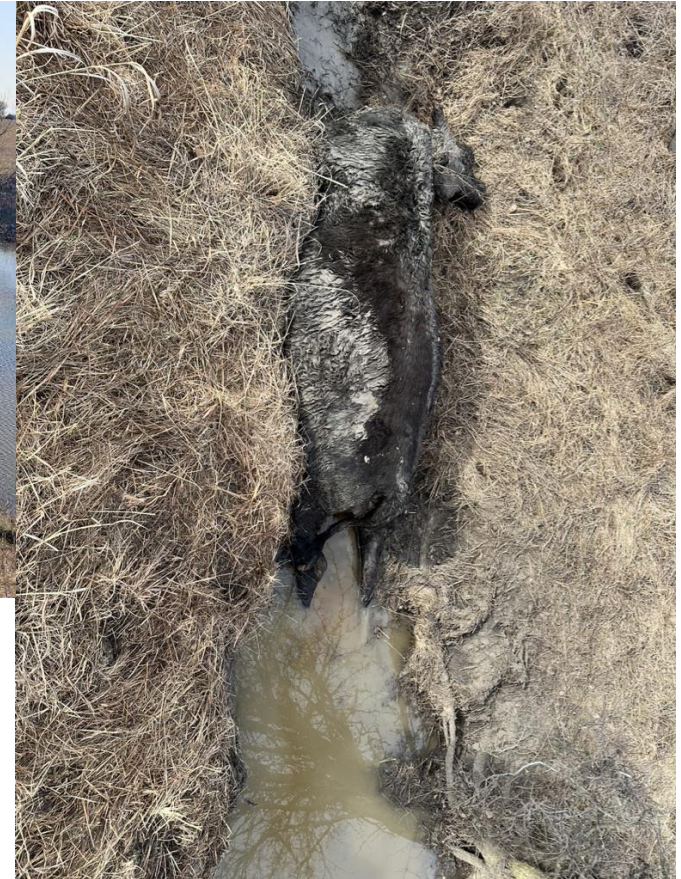


- Mutilation without killing relatively small calf
- Limited feeding, if any

DOG PREDATION



- Livestock run to exhaustion
- Struggles evident
- Ears chewed



- Lack of feeding

DOG PREDATION



DOG PREDATION

- Abrasions from canine teeth often confused with large claw marks



DOG PREDATION



DOG PREDATION



- Ragged wounds
- Victim survives

- Wounds not focused

MOUNTAIN LION PREDATION

Large
Canine
Punctures
to Throat



Massive
trauma to
throat
including
sub-
cutaneous
bleeding



Hair neatly plucked prior to
consumption

MOUNTAIN LION PREDATION

Prey remains cached, and covered with loose debris



FENCE/HARDWARE



PREDATOR ID:



VULTURES

Black Vulture Turkey Vulture



PREDATOR CONTROL

- Current focus is an integrated approach
 - Non-lethal prevention strategies
 - Lethal control

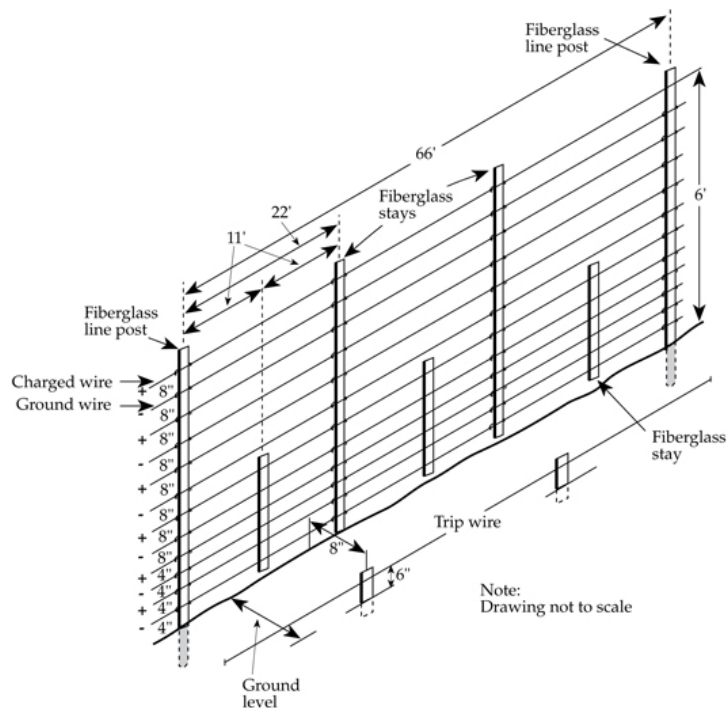


Fig. 4. High-tensile, electric, antipredator fence.



PREVENTION – GUARDIAN ANIMALS

- Used by 26% of cattle producers in 2015



PREVENTION – EXCLUSION

- Fencing (used by 15.5 % of cattle producers in 2015)
 - Woven wire
 - Ideal: 4"x6" (HxW) or less and at least 5.5' high
 - Barbed or electrified wire above can prevent climbing
 - Buried apron prevents digging under

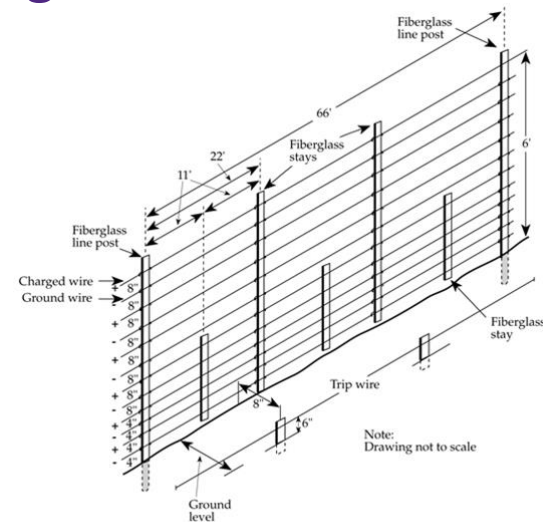
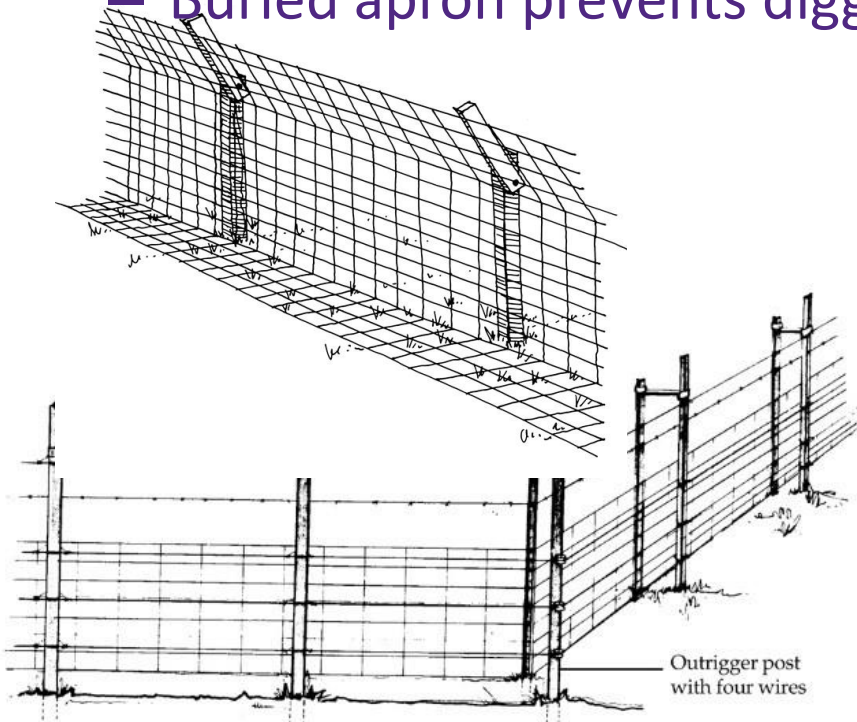


Fig. 4. High-tensile, electric, antipredator fence.

PREVENTION – EXCLUSION



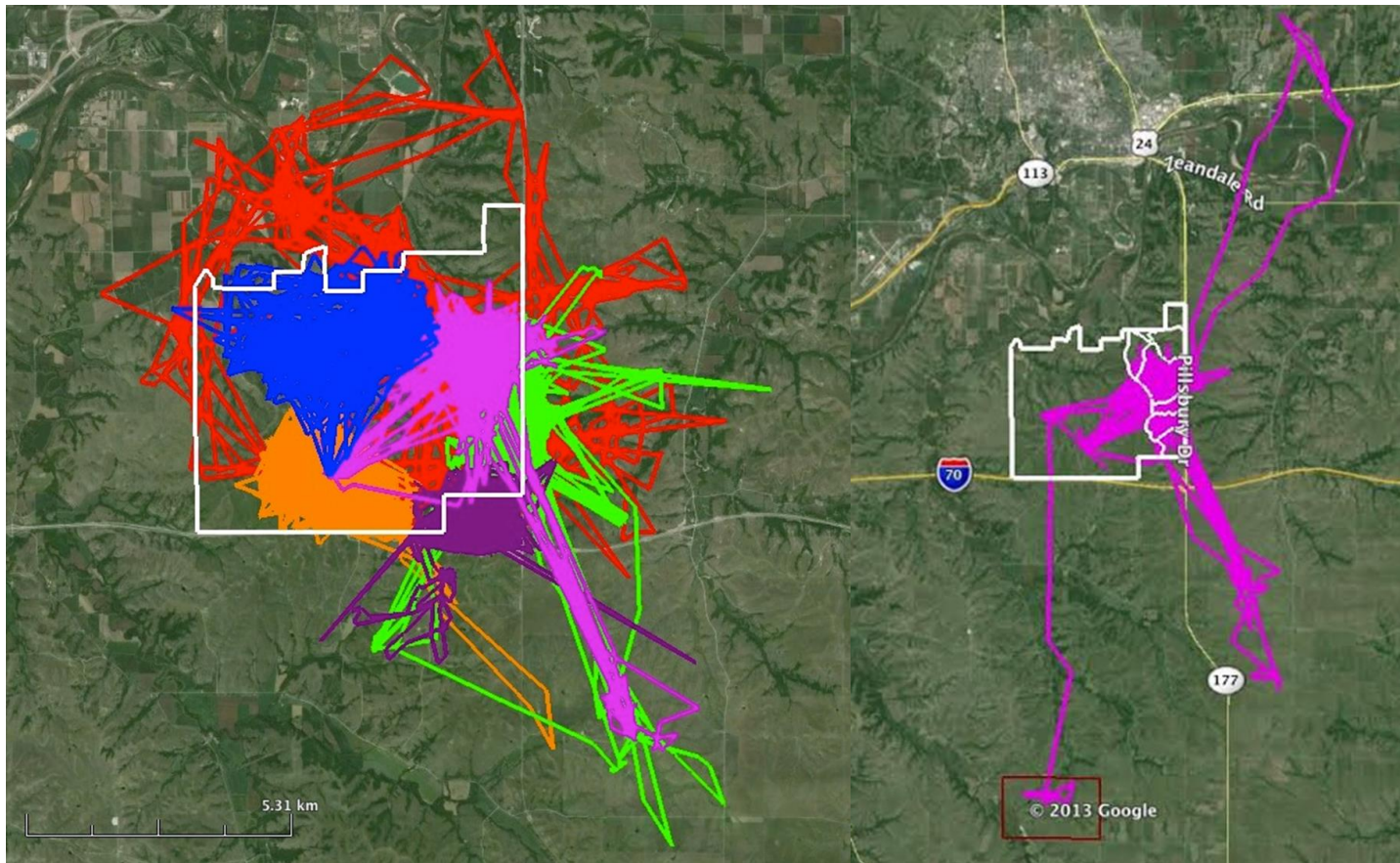
PREVENTION – EXCLUSION

- Fencing
 - Temporary electric



PREVENTION – DEAD LIVESTOCK

- Remove Dead Livestock (~5% operations)
- Vulnerable animals far from carcasses



PREVENTION – DEAD LIVESTOCK



PREVENTION – DEAD LIVESTOCK



PREVENTION – HAZING



LETHAL CONTROL

- KSA 32-1002
- Does not prevent owners or legal occupants of land from killing any animals when found in or near buildings on their premises or when destroying property, subject to the following:
 - The provisions of all federal laws and regulations governing protected species
 - it is unlawful to use, or possess with intent to use, any such animal so killed unless in accordance with regulations of the secretary
 - such owners or legal occupants shall make reasonable efforts to alleviate their problems with any such animals before killing them.

LETHAL CONTROL – BLACK VULTURES

- Must get permit
- Shooting limited number of problem birds
- Use to produce effigies



Clear Form

OMB Approved 0574-0135 EXP: 09/2022

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
WILDLIFE SERVICES

USFWS MIGRATORY BIRD
PERMIT APPLICATION
OR REVIEW

1. REQUESTER INFORMATION

A. NAME AND ADDRESS

B. TELEPHONE HOME WORK

C. FAX OR EMAIL

2. LOCATION OF DAMAGE

A. LOCATION

B. COUNTY

C. STATE

3. RESOURCE/DAMAGE ESTIMATE

A. RESOURCES DAMAGED (select all that apply)

☐ AGRICULTURE ☐ HEALTH & SAFETY ☐ NATURAL RESOURCES ☐ PROPERTY

B. LIST SPECIFIC RESOURCES

C. DESCRIPTION OF DAMAGE

4. MIGRATORY BIRD SPECIES

| A. DEPREDATING SPECIES | B. NUMBER INVOLVED | A. TAKE RECOMMENDATION | B. NUMBER RECOMMENDED | C. METHODS |
|------------------------|--------------------|--|-----------------------|------------|
| (1) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (2) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (3) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (4) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (5) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (6) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (7) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |
| (8) | | <input type="checkbox"/> YES <input type="checkbox"/> NO | | |

☐ Continued on reverse

6. ACTIONS

A. PREVIOUS ACTIONS TO ADDRESS PROBLEM AND RESULTS OF THOSE ACTIONS

B. COMMENTS

7. RECOMMENDED ACTIONS

☐ HARASSMENT ☐ HABITAT ALTERATION ☐ HUSBANDRY ☐ EXCLUSION ☐ LETHAL TRAPPING ☐ CHEMICAL REPELLENT ☐ CAPTURE AND RELOCATION ☐ EGG/NEST DESTRUCTION ☐ SHOOTING ☐ OTHER:

8. WS INVESTIGATOR INFORMATION

A. WS INVESTIGATOR NAME AND CONTACT INFORMATION

B. WS INVESTIGATOR SIGNATURE

C. DATE OF INVESTIGATION (use this date as MS entry date)

TELEPHONE NUMBER

EMAIL ADDRESS

WS FORM 37

APR 2018



[Return to top](#)

LETHAL CONTROL

- Targeted removal
 - Goal is to remove offending coyotes
 - Alpha pairs often responsible
 - Coyotes with pups increase problems
 - Is less expensive
 - Low impact to non-target species
 - More common approach used today



EFFECTIVENESS OF SELECTIVE REMOVAL

- No relationship between number of coyotes removed and subsequent sheep kills
- Dominant breeding coyotes whose territories overlap sheep pastures with lambs responsible for most predation
 - 1 male responsible for 71% of kills
- Selective removal of one or both alpha coyotes effectively stopped predation

LETHAL CONTROL

- Targeted removal
 - Trapping
 - Snaring
 - Calling & shooting



OPEN CARRY



CONCEALED CARRY



QUESTIONS?

Drew Ricketts

785-307-3831

arickett@ksu.edu

www.wildlife.ksu.edu

**FINS, FUR AND
FEATHERS**



YouTube: KSRE Wildlife Management (@ksrewildlife)

Facebook: KSRE Wildlife Management (@ksrewildlife)



K-STATE
Research and Extension