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EXTIRPATION OF A RECENTLY  
ESTABLISHED FERAL PIG  
POPULATION IN KANSAS

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# EXTIRPATION OF A RECENTLY ESTABLISHED FERAL PIG POPULATION IN KANSAS.

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**ABSTRACT:** Most feral pigs (*Sus scrofa*) are descendants of domestic swine that have gone wild and their reproduction is uncontrolled by man. A few populations may be descendants of European wild boar or crosses between wild boar and domestic swine. Disease control officials report that 23 states have established populations of feral pigs and the total feral pig population in the United States is probably in excess of 2 million animals. A population of feral pigs was documented in the fall of 1993 on the Fort Riley Military Installation in northeastern Kansas. Biologists from the Fort Riley Natural Resources Division and the Kansas Cooperative Fish and Wildlife Research Unit assessed the situation and recommended that the pig population be eradicated because of the potential for disease, crop damage, erosion, competition for food with native wildlife and depredation on native wildlife. The goal of this management plan is to eradicate feral pigs on Fort Riley. We have integrated a variety of control techniques emphasizing the use of cage traps, snares, and possibly radio telemetry and aerial hunting.

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Feral pigs are primarily from domestic stock that have gone wild and their reproduction is uncontrolled by man. Disease control officials report that 23 states have established populations of feral pigs and that the total feral pig population in the U. S. is probably in excess of two million animals (Miller 1993). In the Great Plains Region, Kansas (Gipson et al. 1994), Texas (Taylor 1993), and Oklahoma (Wagner 1995) have established populations of feral pigs. Biologists with the Oklahoma Department of Wildlife and Conservation believe feral pig populations are expanding west and north toward Kansas (Wagner 1995). A population of feral pigs was documented in the fall of 1993 on the Fort Riley Military Installation in northeastern Kansas (Gipson et al. 1994). A team of biologists from the Fort Riley Natural Resources Division and **the Kansas** Cooperative Fish and Wildlife Research

Unit assessed the situation and recommended **that the** pig population be eradicated because of potential for disease, crop damage, erosion, competition for food with native wildlife, and depredation on native wildlife (Henry 1969, Kurz and Marchinton 1972, Wood et al. 1976, 1979, 1980; Everitt and Alaniz

1980, Singer et al. 1981, 1984; Barrett 1982, Baber and Coblenz 1986, Katahira 1993). The Kansas State Director for the United States Department of Agriculture, Animal Plant and Health Inspection Service, Animal Damage Control, joined the study team at the end of the 1994 - 1995 field season and will assume management responsibilities for feral pigs on Fort Riley in November 1995.

## STUDY AREA

Fort Riley is a 44,500 ha military installation located in the north central flint hills region of Kansas. The rolling flint hills are comprised of limestone and chert, and because of the rocky soil, were not plowed and converted to cropland. The native vegetation of the flint hills has remained largely intact and the region is **one of the** largest tallgrass prairies remaining in the world. The dominant grasses include big bluestem (Andropogon), little blue stem (Andropogon scoparius), Indian grass (Sorghastrum nutans), and switch grass (anicum canadense). The drainages in the flint hills support woody vegetation ranging

from brushy habitats of buckbrush (*Symphoricarpos Orbiculatus*), smooth sumac (*Rubus*), and roughleaf dogwood (*Cornus drummondii*) to mature woodlands consisting of bur oak etc

macrocarpa, hackberry (*Celtis occidentalis*), bitternut hickory (*Carya cordiformis*), black walnut (*Juglans nigra*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*)

## METHODS

Feral pigs were collected using 4 methods: live traps, snares, sport hunting, and shooting by the Fort Riley Natural Resources biologists. Trailmaster cameras were used to photograph and identify individual pigs. These pictures were used in combination with sightings and trapping results to estimate the population. Pictures of individuals were compared with trapped pigs to determine if they matched. Hunting and trapping efforts were implemented in the fall of 1993. Organized hunts by the Fort Riley Natural Resources biologists consisted of spotlight hunts in areas where pig sign was concentrated. Pig sign consisted of rootings, trails, wallows, and beds. Feral pig hunting was also opened to the public with the purchase of a Fort Riley hunting license.

Trapping was conducted with portable box traps fitted with root cellar type doors. In the 1994-1995 season it was evident that some pigs became trap shy and would not enter the traps unless the doors were wired open. Traps were then modified with a trip wire that held the door open and shut once pigs were inside. Traps were usually prebaited in areas of recent pig activity. In the fall and winter baits included deer carcasses, deer entrails, and grains. Summer baits include fermented corn mash as recommended by Peine and Farmer (1990) and raspberry jello. Rotten fruits were also used. We also experimented with snares in the 1994 -1995 season.

## RESULTS

In the first season (fall and winter 1993 -1994) a total of 39 pigs were removed. Thirty-one

pigs were trapped in live traps, 4 were shot by hunters, 2 were shot by biologists, and 2 were found dead of unknown causes. Removal of the 31 trapped pigs required approximately 16 worker hours per pig. Biologists estimated that 5 - 15 pigs remained after the 1993 -1994 trapping season (Gipson et al. 1994). In the second season, November 1994 - February 1995, a total of 30 pigs were removed. Twenty-three were live trapped, 3 were killed by hunters, 2 were road kills, and 2 were snared. Removal of the 23 trapped pigs required about 14 worker hours per pig. Biologists estimated that at least 15-25 pigs still remained after the 1994-1995 trapping season.

## DISCUSSION

Cage traps proved to be our most effective method of control, accounting for 75 - 80 % of the pigs killed each year. Of the 23 pigs caught in cage traps in the second season, 9 were caught with the modified trip wire trap. Our assessment of snares used in winter 1994 - 1995 showed they could be effective when placed along trails leading to bait piles. However, deer tracks were found on most pig trails and we concluded that snares should only be used in situations where the chance of catching deer was extremely low.

Public hunting of feral pigs proved to be relatively unsuccessful. In the first season approximately 100 people hunted for pigs and only 4 were shot by hunters. In the second season no pigs were killed by hunters that set out to take pigs. However, 3 pigs were killed by a turkey hunter. Barrett and Birmingham (1995) suggested that all hunting should cease when a trapping program is being conducted, because increased human activity might pressure pigs into moving to other areas. This appeared to be true on Fort Riley. We recommend that during future control efforts, hunting should not be allowed in the areas where trapping is taking place. Other control techniques that we have not tried, but were considered, include corral traps, radio telemetry, hunting with dogs, and aerial hunting.

Corral traps are large pens (corrals) with funnel like entrances. We did not try this style of trap because the pigs seem to move in and out of areas at a relatively rapid pace, especially after 1 or more were trapped or shot. A permanent trap like the corral trap did not seem feasible.

Radio telemetry is a technique that we are considering. The use of radio telemetry to determine social interactions, behaviors, and travel patterns could be very useful. This information would be pertinent in developing trapping plans once movement patterns were determined. Also, pigs outfitted with radio transmitters could be used as "Judas pigs" to give the locations of groups of pigs. This technique was suggested by Poch et al. 1992 and has been successful in some situations.

Hunting with dogs has not been tried because of the potential high cost of contracting with experienced hunters and dogs. Also, the heart of the pigs range appears to be in a 64 kmz artillery impact area, which is off limits to all human entry. Hunters would not be allowed to follow dogs into this area and, therefore, this technique may have limited utility.

Aerial hunting may also be limited because the impact area is off limits to low flying crafts. Pigs may learn to evade a single control technique, but have trouble learning to avoid a variety of techniques initiated simultaneously. Therefore we suggest using a variety of techniques at the same time. For example, pigs may learn to avoid cage traps, but have difficulty avoiding both cage traps and snares set near a single bait pile. Each situation will differ, and techniques will have to vary to meet the situation. ,

## MANAGEMENT IMPLICATIONS

The origin of the feral pigs on Fort Riley is an important unanswered question. The variation seen in color and size suggests that these pigs are descended from a variety of parental stocks and thus, are not likely to be from one or two escapes

from local producers with uniform blood lines. An educational effort is needed that advises military personnel and the public that the release of feral pigs is illegal (Kansas Senate Bill 260, 1995) and potentially harmful to domestic animals and to the natural environment. Thus far, the feral pigs collected from Ft. Riley have been healthy; no brucellosis, pseudo rabies, or other serious diseases were detected (Veatch et al. 1995). Kansas is classified brucellosis free and feral pigs could jeopardize this classification. Our estimate of 5 -15 pigs measured after the 1993-1994 control effort was obviously low. This demonstrates how easy it is to underestimate numbers of secretive animals such as feral pigs. Even if we appear to be successful in eradicating the pig population we recommend that surveys continue for at least 3 years to confirm that the pigs have been extirpated.

If our control strategy proves unsuccessful in eradicating the population, a long term management/maintenance plan will be developed. All available management alternatives which could help hold the pig population at the lowest practical level will be considered.

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