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STATUS OF FERAL PIGS IN KANSAS AND NEBRASKA

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Abstract: Wild pigs have expanded their range markedly during the last 30 years. In Kansas feral pigs from domestic stock were first reported in 1994 on Fort Riley Army Base. During 2005, 2006, and 2007 the occurrence of reproducing wild pigs was confirmed on 18 sites throughout Kansas and 4 sites in Nebraska. One Nebraska population is in a county neighboring Kansas. Estimated numbers of pigs ranged from 8-10 individuals at each of 2 sites in Kansas to more than 30 on each of 3 other sites. The wild pig population in Kansas appears to be changing from 1 predominantly of domestic stock to 1 of Eurasian wild boar descent and hybrids of the 2. Ninety-one percent of wild pigs examined from Kansas between 1993-1997 were classified as coming from domestic stock. However, only 34% of wild pigs examined in 2003-2006 were classified as being from domestic stock. Sixty-six percent were classified as wild boar or hybrids. On 1 site in Nebraska, 1 sow and a litter of 6 piglets were classified as hybrids with wild boar; wild pigs killed on 3 additional sites appeared to be from domestic stock.

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Key words: domestic stock, Eurasian wild boar, feral pig hybrid, wild pig

Wild pigs (*Sus scrofa*) have expanded their range markedly in North America during the last 30 years. In 1979 wild pigs were reported in the southeastern United States as far west as Texas and in California (Wood and Barrett 1979). By 1998 wild pigs were found in all of the southern states from Florida to California and north through the central tier of states from Colorado and Kansas to Ohio and West Virginia (Gipson et al. 1998).

LaFond and Salwey (2005) found wild pigs in counties in Wisconsin. Sweeney et al. (2003) indicated that wild pigs were established in Canada as well.

Reproducing populations of wild pigs are common on the southern Great Plains of Texas and Oklahoma (Stevens 1996), with some populations dating to the 1700s (Taylor 1993). At least 3 releases of Eurasian wild boar occurred in Texas

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during the 1930s and 1940. Wild boar are a native wild species in Europe and Asia. These wild boar released in Texas bred with local feral pigs of domestic ancestry (Taylor 1993). The occurrence of wild pigs on the central Great Plains of Kansas and Nebraska appears to be relatively recent, with the first published account in 1994 (Gipson et al. 1994). Our goal in this paper is to provide an overview of the status of wild pigs in Kansas and Nebraska. We review recent range expansions and present evidence that suggests wild pig populations in Kansas, and possibly in Nebraska, are changing from predominately pigs of domestic stock to wild boar and hybrids.

METHODS

Feral pigs were collected with live traps and shooting by the study team, personnel from resource management agencies, private landowners, and hunters. Locations of breeding populations of wild pigs were confirmed by examination of pregnant or lactating sows killed on a site, observations of adult and juvenile pigs, and from tracks of piglets and adults. Efforts were made to have a member of our study team visit sites where hunters, farmers, and outdoor enthusiasts reported seeing pigs or their sign, including wallows, rooting, rubs on trees and posts, feces, and tracks.

Following criteria described by Mayer and Brisbin (1991), we classified wild pigs into 1 of 3 categories: 1) pigs from domestic stock, 2) hybrids between domestic stock and Eurasian wild boar, and 3) predominantly Eurasian wild boar. To assure consistency in applying the criteria, only the first author classified wild pigs into categories.

Criteria Used To Classify a Pigs Origin

Adult Coat Color.—Eurasian wild boar over four to six months of age consistently have a wild type color pattern of grizzled dark brown or black. The grizzled appearance is caused by banded, light-tipped bristles, especially in the facial region and along the top of the shoulders; some have light tipped bristles covering most of the body except for distal limbs, ears, tail and snout. Hybrids commonly have the wild/grizzled color pattern of wild boar, sometimes with a distinct light gray cast. All black is another common color of hybrids.

They are almost never red or light brown and seldom have white belts or spots. Feral pigs from domestic stock are most often all black, black and red with brown spots, or black with white spots. Occasionally individuals with white shoulder belts occur. The wild/grizzled color of wild boars has not been observed among feral pigs.

Juvenile Coat Color.—A stripped pattern is visible on the back and upper sides of wild boar piglets and on about half of hybrids. These strips are clearly visible on near term fetal pigs and on juveniles less than two months old. Very few feral pigs from domestic breeds exhibit a stripped pattern. When it is present, it is often extremely faint and difficult to see.

Bristle Color.—Eurasian wild boar and hybrids have primarily banded bristles, with white to dark tan distal tips. This gives them their characteristic grizzled color pattern. A few solid black bristles are present on wild boar and hybrids may have some solid black or red/brown bristles. Feral pigs from domestic breeds do not have banded bristles; they exhibit only solid coloration on bristle shafts.

Depth of Facial Profile.—Mayer and Brisbin (1991) referred to depth of facial profile as “dorsal profile”. Eurasian wild boar and their hybrids have a distinctly flattened and straight facial profile from the muzzle through the supraorbital area and along the crest of the brain case, giving an appearance similar to the facial profile of a collie dog. Domestic and wild pigs from domestic stock typically have a more cupped forehead angled upward in the interorbital area, similar to a pointer or boxer dog.

Head to Body Length Ratio.—Wild boar and hybrids tend to have shorter bodies and proportionally longer heads than domestic or wild pigs from domestic ancestry.

RESULTS AND DISCUSSION

Reproducing populations of wild pigs occurred in 18 locations in Kansas and 4 in Nebraska (Fig. 1). Estimated sizes of local populations ranged from 8-10 individuals at 2 sites in Kansas to more than 30 individuals. Our records indicate that

more than 400 feral pigs have been killed in Kansas since they were first reported in 1993. In each of 3 Kansas counties (Morton, Kiowa, and Bourbon), populations of wild pigs were located <30 km from each other. Pigs in these neighboring populations were physically similar and we suspect that movement of individuals between the populations has occurred. A similar situation existed in Phillips County, Kansas and Harlan County, Nebraska where populations in the respective counties were about 30 km apart. Wild pigs were known to occur in Phillips County before being observed near Harlan County Reservoir in 2003. The Harlan County population is likely the result of pigs dispersing out of Phillips County.

In Nebraska, the 4 populations of wild pigs occurred in Harlan County, as mentioned above, near the Blue River in Seward County, near the Middle Loop River along the border between Valley and Sherman Counties, and along the border

of Nance and Platte Counties (Fig. 1). Wild pigs along the border of Valley and Sherman Counties and those along the border of Nance and Platte Counties were first detected in winter 2006/2007. Approximately 20 feral pigs were killed in Harlan County from 2003-2005. At least 32 individuals from the population first observed in Seward County in May 2004 have been killed. A minimum of 90 feral pigs have been killed in Nebraska.

In addition to the 2 existing populations of wild pigs in Nebraska, 2 other populations were noted. But both populations only survived briefly in a wild state. The first population was reported in northeastern Nebraska near the Winnebago Indian Reservation in 1998. All of these pigs appear to have been killed. The males that were examined had been castrated suggesting that these pigs had previously been in captivity. The second population occurred near Swanson Reservoir in Hitchcock County. A local landowner killed 11 pigs in this

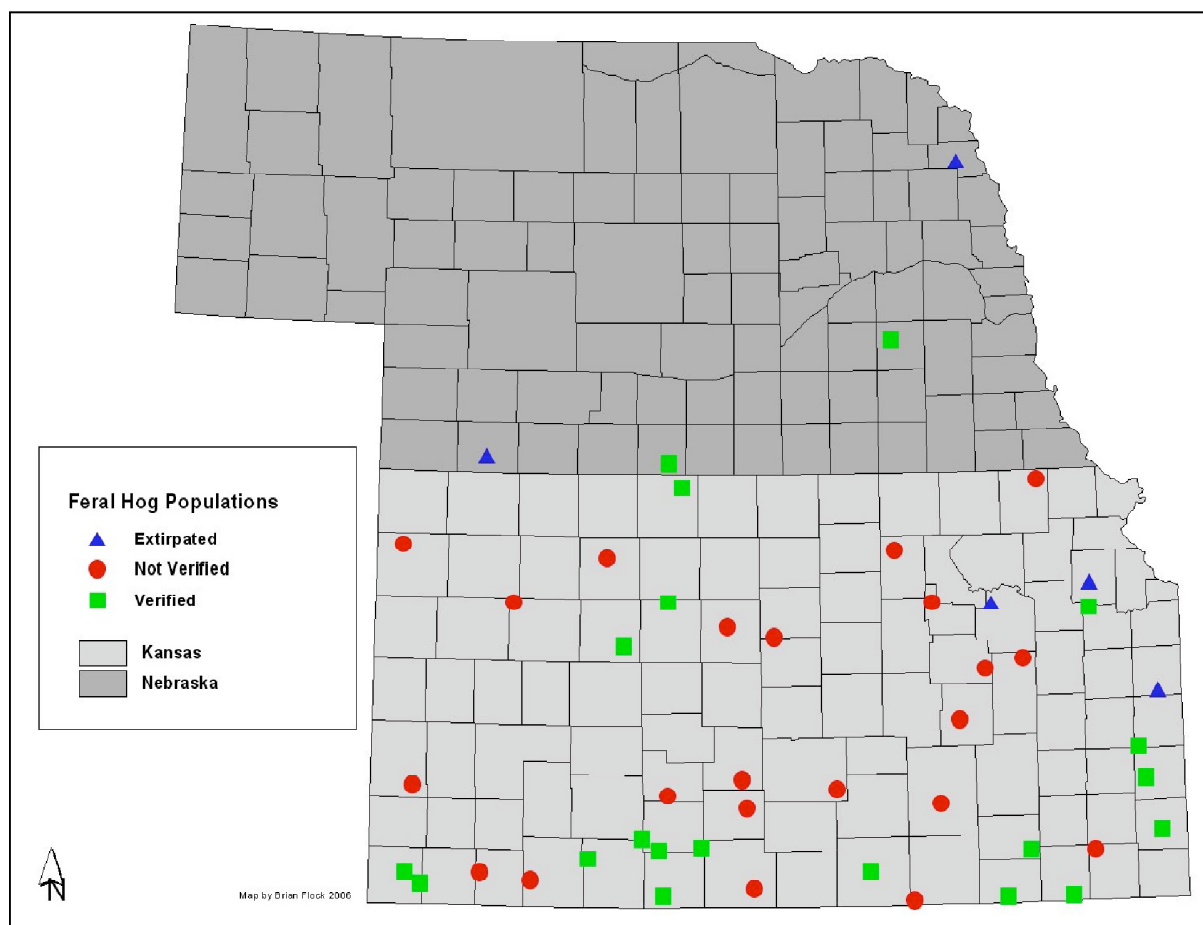


Fig. 1. Distribution of wild pigs in Kansas and Nebraska. Squares delineate existing populations of wild pigs; triangles delineate where wild pigs existed in the past, but have been extirpated; circles delineate sightings of wild pigs, but populations were not confirmed.

area in July 2003 that appeared to be wild; he killed 5 more in July 2005. Additional pigs have not been reported in the area.

Three populations of wild pigs reportedly existed for several years in eastern Kansas before being extirpated (Fig. 1). Two of these populations were described by Gipson *et al.* (1998). The third population occurred along Mill Creek in Wabaunsee County. According to local residents, the last wild pigs in the area along Mill Creek were killed by hunters in the late 1960s. Interestingly, free ranging “Razorback hogs” occurred in 1850 in what is now Wabaunsee County, Kansas and they “could not be confined” (Spear 1913).

A shift appears to be occurring in the genetic composition of wild pigs in Kansas and possibly in Nebraska. During the period 1993-1997, 91% of wild pigs examined from Kansas appeared to have been from domestic stock (Table 1); 1 individual appeared to be a Eurasian wild boar and 4 other individuals were classified as hybrids. During the period 1998-2002, 56% of the pigs examined appeared to be from domestic stock and 44% were classified as wild boar or hybrids. From 2003-2006, 50 wild pigs were examined and only 34% were classified as being from domestic stock, while 66% were classified as wild boar or hybrids. This rapid transition among wild pigs in Kansas from predominantly domestic stock to mostly Eurasian wild boar and hybrids suggests that an aggressive effort has been underway to release Eurasian wild boar (or their hybrids) into local feral pig populations. We believe that Eurasian wild boar have been released to enhance characteristics preferred by hunters: greater size, wild appearance (grizzled color of wild boar and their hybrids), and perceived greater wariness. Fig. 2 shows an example of the changing composition of wild pig populations. Four wild piglets from a single litter traveling along a game trail on the Clinton Wildlife Management Area in Kansas are shown that ranged from a typical Eurasian piglet with strips along the back to one with a dark grizzled head of a Eurasian and a black body and white shoulder band typical of the Hampshire breed, to one that looks like a mixed breed domestic but it has clear stripes along the back suggesting it is a hybrid with Eurasian and domestic ancestry.

Table 1. Changes in the composition of the wild pig population in Kansas between 1993 and 2006. See text for explanation of classification criteria for pig type.

Pig type	1993-1997	1998-2002	2003-2006
Domestic	53 (91%)	22 (56%)	17 (34%)
Eurasian	1 (2%)	4 (10%)	9 (18%)
Hybrid	4 (7%)	13 (33%)	24 (48%)
Total	58	39	50

In Nebraska, along the border between Nance and Platte Counties, we detected 1 litter of striped piglets with and adult sow that appeared to be a Eurasian wild boar x domestic hybrid. The present status of wild pigs in Nebraska is similar to their status in Kansas in the early 1990s when only 3 populations were known in the state (Gipson *et al.* 1998). Possibly, persons releasing pigs in Nebraska intend to first establish local populations of relatively inexpensive pigs from domestic stock, then when they are established, enhance the populations by introducing more expensive Eurasian wild boars.

MANAGEMENT IMPLICATIONS

Both Kansas and Nebraska recently enacted laws that prohibit releasing and hunting wild pigs. Management of wild pigs is the responsibility of the Nebraska Game and Parks Commission and the Kansas Department of Agriculture in the respective states. A better understanding is needed of the people responsible for releasing wild pigs and what their motives are.

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Fig. 2. A litter of hybrid piglets (Eurasian wild boar x domestic pig) on a game trail at Clinton Wildlife Management Area, Kansas. The lead piglet has coloration and stripes that are typical of Eurasian wild boar. The second piglet has the head of a Eurasian with black body color and a white shoulder band typical of Hampshire swine. The third and fourth piglets are similar to many mixed domestic breed piglets, except piglet 3 has stripes on the back typical of Eurasian wild boar.

APPENDIX: Illustrations



Appendix Fig. 1. Bank of a pond in Kansas disturbed by feral pigs.