
HABITAT AND MANAGEMENT

GAME FARM DEVELOPMENT IN SASKATCHEWAN: SHOULD WE BE CONCERNED?

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“If the goal is to maintain wild populations both now and in the future, the formulation of enabling legislation for game farming should proceed with far more caution than has been in evidence to date” (Twiss *et al.* 1996).

Game farming is an alternative agricultural practice that promises to be lucrative for farmers during difficult financial times (Saskatchewan Agriculture and Food Web page). Currently, most game farming revenue comes from sales of antler and breeding stock, although Saskatchewan Agriculture and Food (SAF) expects this industry to further develop foreign and domestic markets for meat and capture a portion of the beef industry (Anonymous 1998, SAF Web Page). Native game animals are more efficient at converting feed to meat, require less shelter, and do better on marginal land than do domestic livestock species. Unfortunately, this marginal land is often the only land available to wildlife in our highly fragmented agricultural landscape. Herein lies one of the many conflicts between game farming and wildlife conservation: If agriculturally unproductive lands are converted to game farm pasture as has been done worldwide (Scotland-Blaxter *et al.* 1974, Meuron 1975; Germany- Koch 1976; New Zealand-Yerex 1979; England-

Wagner 1984; Asia- Drew *et al.* 1989, Hungary- Somogyvari 1993, Ireland- Connolly 1995), where will wild animals go? The list of conservation concerns surrounding game farming is large and has biological, philosophical and political aspects. Biologically, game farming threatens wildlife through loss of habitat due to fencing and overstocking, reduction in biodiversity, risk of introducing disease into wild populations, and genetic contamination of wild stocks (Anonymous 1991, Kahn 1993, Dratch 1993, Miller and Thorne 1993, Twiss *et al.* 1996). On philosophical grounds, turning native animals into, essentially, another species of privately-owned cow may trivialize wild animals and reduce public interest in wildlife and support of wildlife-oriented programs (Geist 1985, Posewitz 1993, Samuel and Demarais 1993). Finally, creation of a legal market for illegal wildlife parts or live animals, diversion of public funds from other wildlife programs, and regulation of wildlife issues by an agricultural branch of government (Kahn 1993, Wheaton *et al.* 1993) could dismantle some basic tenets of wildlife conservation (Geist 1988) and result in nonsustainable wild populations (Anonymous 1991, Twiss *et al.* 1996). Many of these conservation concerns are based on real incidents which occurred worldwide (reviewed in

Anonymous 1991, Kahn 1993, Dratch 1993, Miller and Thorne 1993, Wheaton *et al.* 1993, Twiss *et al.* 1996). Legislators must learn from these past problems created by game farming and base proposed policies and regulations on sound ecological or conservation principles.

We currently have more than 264 game farms in Saskatchewan (only includes elk, moose, white-tail deer, mule deer and caribou farms and not exotic species, Anonymous 1998). SAF and Saskatchewan Environment and Resource Management (SERM) anticipate an industry growth rate of 15-20% per annum (Anonymous 1998) and have drafted proposed policies to regulate game farming in the stakeholders document, "Proposed Provincial Policy for Game Farm Development in Saskatchewan." We urge everyone to critically examine this document (available on the Internet at <http://www.agr.gov.sk.ca/saf/live/sthcnsdc.htm>). Although the document identifies many relevant concerns, several proposals are distressing. One such proposed policy would permit game farming on Crown, cultivated lease land because "These lands have limited value as wildlife habitat" while another would allow farmers to live-trap animals attempting to enter game farm pens. Trapped animals would either be slaughtered (implied to be the best option) or released after disease testing (Anonymous 1998). Finally SAF and SERM are evaluating public opinion using what appears to be a biased questionnaire, one that could be construed as designed to transfer some powers of wildlife regulation from SERM to SAF, i.e. from a wildlife to an agricultural branch of government. Overall, the tone of these documents and the short, 1-2 month consultation period loosely ending March 9 suggest environmental short-sightedness (*sensu*

Wilson 1992) and lack of concern for public opinion and for the welfare of Saskatchewan ecosystems. Twiss *et al.* (1996) warned Canadian policy makers and legislators not to ignore public opinion or ecosystem health if viable wildlife populations are to exist. Farming of native wildlife is illegal in British Columbia, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island, Wyoming and Oregon (V. Geist pers. comm., Twiss *et al.* 1996). Despite proposed socio-economic benefits of game farming, residents of these jurisdictions favoured the existence of wildlife in perpetuity.

When dealing with agricultural issues, one road block conservationists may face is that industry representatives either ignore or fail to understand that wildlife and wild places have intrinsic value and that healthy ecosystems provide many environmental benefits, e.g. water purification, sulphate reduction, carbon dioxide fixation, fertilization, oxygen production (Purves *et al.* 1992). Many arguments are consequently simplified to economics. In addition to the biological, philosophical, and political concerns outlined above, the game farming issue has serious economic complications for both rural communities and the general public (Anonymous 1991, Twiss *et al.* 1996). For instance, during 1991, Saskatchewan residents spent about \$173 million dollars on both consumptive and non-consumptive wildlife-related activities, and an additional \$130 million dollars on recreational fishing (Filion *et al.* 1994). These dollar values do not include rural economic benefits from out-of-province visitors but nonetheless clearly demonstrate that wildlife and habitat are important to Saskatchewan residents. Compared to income from wildlife-related activities, only \$3 million was earned by Saskatchewan farmers

from the sale of velvet and venison in 1996 (Anonymous 1998). Income from sales of breeding stock was not available and may only represent a short-term, non-sustainable benefit as the industry grows and the demand for breeding animals declines (Anonymous 1991, Twiss *et al.* 1996, SAF Web-page). Thus, even from an economic stand point, we question why our provincial government is willing to risk the health of Saskatchewan ecosystems for the economic benefit of a few individuals. In addition, there are regulatory, enforcement, and compensation costs (Twiss *et al.* 1996) which may or may not be funded by the industry, particularly at the current game farm license fee of \$100 per year (SAF Web page). For instance, a 1991 epidemic of bovine tuberculosis (TB) in Alberta resulted in the slaughter of about 2,400 game farm elk (Miller and Thorne 1993, Twiss *et al.* 1996). About \$15 million in public funds were used to compensate game farmers, with an additional cost of \$100 million being borne by Agriculture Canada (Pybus 1994 in Twiss *et al.* 1996). This TB epidemic was attributed to game farm elk imported from Montana (Anonymous 1992, Miller and Thorne 1993). Also, in a survey of 50 US and Canadian wildlife agencies (with a 90% response rate), Wheaton *et al.* (1993) determined that sportsman's dollars or public funds have largely subsidized game farming because current farming license and fee revenue generally has not paid for regulation of the industry. Given a predicted average compound growth rate of 24% per annum on game farm investments (SAF Web page), if game farming is to develop in Saskatchewan, then the public should not subsidize any aspect of this industry. Subsidies and conservation issues should be just part of public concern over game farming. We should also be concerned with the efficacy of government regulation,

underscored by two recent events in the prairie provinces. In February 1998, a third cow in Manitoba tested positive for bovine TB which resulted in a scare for Manitoba and eastern Saskatchewan Farmers (Canadian Press 1998, Robertson 1998). This disease which could seriously threaten export of Canadian beef still exists despite rigorous testing by provincial and federal agencies. Other diseases transmitted between cattle and game animals could also threaten Saskatchewan's beef industry include haemorrhagic disease, blue tongue, and possibly chronic wasting disease (Dulac *et al.* 1988, Jessup *et al.* 1990, Duckworth 1998). Saskatchewan game farm policies and regulations must be based on proven disease testing protocol. In addition, Manitoba recently demonstrated the difficulty with regulating wildlife capture issues. In late 1995, the Manitoba government announced intentions to allow commercial elk ranching in the province (Friesen 1998). During the next two winters, the province live trapped wild elk for breeding stock. Although this trapping was supposed to be tightly controlled by the government, unregistered elk started appearing. Rather than punish criminal game farmers for clear violation of game laws, the government declared a two-week amnesty period so that all illegally held elk could be registered. Eighty-eight animals came in as a result (Friesen 1998). Given this lack of integrity among some game farmers, who will obtain financial benefit from these animals, the government basically legitimized wildlife law infraction and trivialized wildlife.

These captured wild animals have now become livestock and are being sold out of province, despite the presence of *Parelaphostrongylus tenuis* in Manitoba. *P. tenuis* is a nematode parasite that causes nervous disorder and paralysis in several species of

ungulates (Anderson 1972). Manitoba elk have been purchased by at least one Saskatchewan farmer (pers. comm., name kept private). These elk underwent quarantine in Manitoba and are currently under quarantine in Saskatchewan. Although white-tail deer are the typical hosts for *P. tenuis*, studies have shown that elk can also carry low level infections (Samuel *et al.* 1992) and thus importation of these Manitoba animals could pose a high risk to Saskatchewan wildlife. In some species of ungulates, importation tests may be inadvertently fooled by normal antiparasite treatments- e.g. Ivermectin can temporarily stop shedding of larvae without eliminating infections (Kocan 1985). Are testing protocols sensitive enough to prevent false negatives and keep Western Canada *P. tenuis* free? Our literature review suggests not. Of note is that the majority of literature on the population effects of *P. tenuis* have focused on moose (reviewed in Schmitz and Nudds 1994) because this species is the most threatened ungulate where *P. tenuis* exists naturally. However, this parasite is also lethal to mule deer (Tyler *et al.* 1980). If game farming allows *P. tenuis* to jump the current ecological barrier preventing a westward spread, the unknown risk to mule deer populations may be high considering the large overlap in range and habitat use between whitetails and mule deer in Saskatchewan. Policy and regulations based mainly on economics and hearsay will fail ecosystems. Instead, we must learn from the biological literature and errors of other jurisdictions. However, the onus to demonstrate sound environmental policy before further developing game farming in Saskatchewan falls squarely on the industry and ministries promoting game farming. Post-hoc policies to clean-up foreseeable problems are no longer acceptable. Principles in the Saskatchewan Prairie Conservation

Action Plan (in which SERM and SAF are members) and the Canadian Biodiversity Strategy should further guide development of game farm policies and regulations (Anonymous 1995, PCAP Committee 1998). These documents were developed through cooperation by conservation, agricultural and governmental partners and recognizes that sustainable agriculture can exist with and promote healthy ecosystems, but only if legislation occurs with an ecological perspective. Without such an approach, the long-term existence of our ecosystems will be jeopardized (Anonymous 1995, PCAP Committee 1998) and we risk the French experience where game farms are developing from meat production into agro-tourism spots for wildlife viewing (Brelurut *et al.* 1995). SAF and SERM state that the Saskatchewan game farm industry should develop "in harmony with the management of sustainable wildlife populations and their public uses" (Anonymous 1998). However, the political process currently being used to promote game farming in Saskatchewan appears to be economically oriented and conservation disoriented. The complete absence of literature review and lack of philosophical consideration in the proposal policies (Anonymous 1998) reflect negligence for wildlife and disregard for the majority of people in this province. We want SAF and SERM to base policies on sound biological principles and existing conservation goals, fairly assess public opinion and allow a second consultation period for the public to review revised policies before submission to Cabinet.

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Viceroy - Cranberry flats, South of Saskatoon

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