

Resistant, Flexible, Diverse: Revaluing Rare Farm Animal Breeds As Countryside Capital

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Abstract

This article explores the past, present, and potential contributions of rare and indigenous farm animal breeds to *countryside capital*, a concept emerging in discussions of rural tourism. Older breeds of farm animals, evolving with human societies and adapting to a broad range of climatic and landscape conditions, have played multiple essential roles in the development of communities throughout the world and continue to offer vital products and services to societies living in marginal areas of the planet today. As such, older farm animal breeds embody unique genetic traits and rich cultural heritage of actual and future value to rural communities seeking to adapt and diversify, often into tourism, in today's climate of uncertainty. Potential contributions of heritage farm animals are discussed in relation to agrotourism and last-chance tourism, with a focus on the Newfoundland pony and Canadienne cow, two of Canada's indigenous and rare farm animal breeds.

Keywords: rural geography, animal geographies, indigenous breeds, agrotourism, last-chance tourism

1.0 Introduction

In today's rapidly changing rural environments (Beesley, Millward, Ilbery, & Harrington, 2003; Garrod, Wornell, & Youell, 2006; Ilbery, 1998; Woods, 2005), we can ill afford to squander any capital that could potentially help communities develop and adapt to increasingly uncertain futures. I would like to take this opportunity to draw attention to the emerging notion of *countryside capital* (Roberts, Mitchell, & Hall, 2003, p. 226), as well as to farm animals, "more than passive objects on farms" (Yarwood & Evans, 2006, p. 1307). Farm animals constitute a largely overlooked reservoir of capital in rural communities. Throughout the world, indigenous and increasingly rare farm animal breeds have provided capital in rural regions, developing as they have to thrive in particular landscapes and conditions, coevolving with and meeting the needs of people living in far-flung places, and carrying into the present day a wealth of historic, landscape, and biodiversity associations.

Although some of these heritage animals have been replaced by machines and modern breeds, they nevertheless have much to offer rural environments and communities in terms of recreation, tourism, and more. Farm animal genetic resources "represent a massive past investment which, if managed properly, can

provide insurance against an unknowable global future” (Rege & Gibson, 2003, p. 322). In the pages to follow, I offer (a) a look at the changing rural and academic context for the study of older farm animal breeds, (b) background regarding rare and indigenous farm animal breeds, (c) a discussion of heritage farm animals and countryside capital, and (d) a focus on older farm animals and rural tourism and recreation.

2.0 Changing Rural and Academic Environments

Rural and academic environments have undergone significant changes in the latter 20th and early 21st centuries (Holloway & Kneafsey, 2004; Ilbery, 1998; Woods, 2005). Agriculture, for example, has become increasingly specialized, commoditized, and industrialized, with consequent environmental and social impacts prompting a movement toward smaller-scale, more diversified, and quality-oriented farming systems (Beesley et al., 2003; Ilbery & Bowler, 1998; Marsden, 2003; Yarwood & Evans, 2000). At the same time, academia has been profoundly affected by postmodernist ideas, poststructuralist thinking, and the closely related cultural turn, with the field of rural studies feeling the impact (Holloway & Kneafsey, 2004; Morris 2004; Woods, 2005) in, for example, a blurring of rural geography’s spatial boundaries, the forging of interdisciplinary connections (Woods, 2009), and an expansion of the notion of agency to include the nonhuman–human co-constitution of rural places (Holloway & Kneafsey, 2004; Jones, 2006). These blurrings, expansions, and new connections offer both opportunities and challenges (Woods, 2009) for rural research, which this paper takes up in an examination of rare farm animal breeds as overlooked, undervalued, and often neglected rural capital.

2.1 Nonhuman Rural Studies

Rural environments are not shaped by human actions alone, and rural researchers must also take into account nonhuman presences and processes at work in relation to the social (Jones, 2006). Michael Woods supports this view when he writes about rural researchers’ exploring the co-constitution of rural places by both nonhuman and human actors (Woods, 2009).

Animals are some of the more visible nonhuman actors at work in rural environments. Although geographic study has long included animals, they have been pushed to the margins of inquiry as, for example, cultural artifacts of domestication or means for further environmental transformation (Wolch, Emel, & Wilbert, 2003); components of biogeographic systems or resources in the social organization of food production (Philo, 1998; Whatmore, 2000); or units of production in agricultural systems (Yarwood & Evans, 2000). The contemporary, and growing, field of inquiry called animal geography/geographies is more generous and curious, focusing as it does “squarely on the complex entanglings of human-animal relations with space, place, location, environment and landscape” (Philo & Wilbert, 2000, p. 4) and calling into question deeply rooted assumptions about the status of animals in social science and modern society (Whatmore, 2000). Jones notes that more recent approaches in agricultural geography have begun to allow for more complex presences of animals (Jones, 2006).

An animal focus has, in fact, become a growing trend in rural studies (Holloway & Kneafsey, 2004; Jones, 2006; Morris, 2004; Woods, 2005). Lewis Holloway (2001), for example, examines the blurring of socially constructed distinctions

between “livestock” and “pet” on hobby farms in England and Wales. Lars Christian Risan (2005), reporting on anthropological fieldwork in high-tech cowsheds in Norway, describes the actions of cows and speculates on their inner life and reasoning. John Law and Annemarie Mol (2008) discuss Cumbrian sheep and the various webs they participate in, as well as the roles of the sheep in initially creating, and now maintaining, the “original landscape of the English romantic imagination,” the agricultural Lake District. Richard Yarwood and Nick Evans (2000), more than any other rural researchers, have focused years of attention on farm animals, particularly specific regional and rare breeds, and the ways in which they are constructed, contested, and subsequently placed in the countryside. Yarwood and Evans have also studied the potential for farm animals to contribute to rural sustainability (Evans & Yarwood, 2007), as well as the vital links they offer between agriculture and environment in terms of biodiversity, environmental heritage, nature conservation, and rural identity (Yarwood & Evans, 2003). All of these studies contribute to the development of what has been termed “the geographies of farm animals” (Morris, 2004, p. 250), “animal-inclusive rural geography” (Yarwood & Evans, 1998, p. 162), and “non-human/animal rural studies” (Jones, 2006, p. 197).

2.2 *Animals in Rural Tourism*

Animals in rural tourism are the focus of another area of inquiry. As Jones (2006) points out, animals have long been present in everyday rural environments—ecologically, socially, culturally, and economically—as farm animals, companion animals, wild animals, hunting and prey animals, and sporting and recreation animals. Typical rural recreation activities such as bird watching, horseback riding, fishing, hunting, and nature observation (Butler, 1998) all involve animals, making them key elements of rural landscapes and the activities that unfold there. Animals are also important, though overlooked, participants in what has been identified as an increasing demand for recreational use of the countryside (Roberts et al., 2003) and for heritage, authenticity, and personal contact (Hall, Mitchell, & Roberts, 2003).

A need for personal contact with animals has further been recognized as responding to the participation (active engagement) and connection (mental absorption/immersion) dimensions of visitor experience (Hall, Roberts, Wemelsfelder, & Farish, 2003). Paul Cloke and Harvey Perkins (2005, as cited in Cloke, 2006) take a close look at an example of personal interaction and connection with animals in the town of Kaikoura, New Zealand, where the presence of whales and dolphins has helped transform a formerly “sleepy fishing village” into a booming tourist town receiving almost 1.5 million visitors annually. Whale watching offers Kaikoura tourists “special, magical, unforgettable” experiences (Cloke & Perkins, 2005, p. 915); swimming with dolphins is described in terms of inspiration, exhilaration, and euphoria (Cloke & Perkins, 2005, pp. 917–8).

Wild animals such as whales and dolphins fall into a certain animal-based recreation and tourism category. Farm animals are placed in another: “domestic/tame animals for interaction and discovery” (Hall, Roberts, et al., 2003, p. 95); close contact with these animals involves activities such as riding, close viewing, touching, feeding, and general animal husbandry.

3.0 Rare and Indigenous Farm Animal Breeds

For more than 10,000 years, the spread of agriculture has resulted in different animal species' adaptation to a broad range of climatic and landscape conditions through the development of diverse specialized traits and strains (Jabbar & Diedhiou, 2003). Over the past century, however, a variety of factors have led to a serious decline in farm animal diversity and in agricultural biodiversity. These factors include the spread of highly controlled agricultural production management systems, demands for product uniformity (FAO, 2007b), the replacement of animal energy with machine energy (Cicia, d'Ercole, & Marino, 2003), and government policies and subsidies' support of modern techniques and methods (Mendelsohn, 2003).

Although the loss of biological diversity is a major environmental concern, it has been associated mainly with plants and wild animals, leaving domesticated animals, farm animals in particular, out of the picture (Drucker & Scarpa, 2003; Lawrence & Mackenzie, 2006; Perrings et al., 2006). The loss of farm animal diversity is, however, troubling because domesticated animals supply approximately 30% of humanity's needs for food and agricultural production (Rege & Gibson, 2003), with 70% of people in poor rural regions of the world, where different animal characteristics meet particular local needs, relying on farm animals to make a living (Anderson, 2003; Drucker & Scarpa, 2003).

The many different farm animal breeds that coevolved with human populations throughout the world continue to offer beneficial traits, such as the capacity to adapt to unfavourable conditions and to thrive on low external-input farming systems (Anderson, 2003). Also recognized in older farm animal breeds are their mothering abilities, natural birthing ease, and disease resistance (Lawrence & Mackenzie, 2006; Trollope, 1996). In developing nations, where farm animals are maintained in low external-input systems and still manage to be productive—reproducing and providing food in the form of eggs, meat, and milk; fibre for protection, shelter, and clothing; energy for transportation and haulage; and manure for fuel and fertilizer (Cardellino, 2003)—these traits are particularly important.

But this wide-ranging set of traits is dwindling with each indigenous breed that goes extinct. The current picture is discouraging:

- Over the course of the last century, 10% of domesticated breeds have become extinct (Signorello & Pappalardo, 2003).
- Globally 30% of known farm animal breeds are considered endangered, and 1% is lost each year (Simianer, Marti, Gibson, Hanotte, & Rege, 2003).
- In the new millennium 62 breeds have become extinct, representing a loss of nearly one breed per month (FAO, 2007b).

Certain scholars have raised the alarm about the high loss of farm animal diversity, pointing out that such diversity will be next to impossible to recover once it is lost (Rege & Gibson, 2003). Especially disturbing are warnings about farm animal diversity loss seriously compromising human capacity to cope with issues such as climate change, disease (Canadian Farm Animal Genetic Resources Foundation [CFAGR], 2003; Trollope, 1996), poverty, and food security (Drucker & Scarpa, 2003).

Several international and national organizations, including the Food and Agriculture Organization (FAO) of the United Nations, Rare Breeds International,

the American Livestock Breeds Conservancy, and the Rare Breeds Survival Trust (UK), among others, call attention to the high loss of farm animal diversity and take action to preserve rare farm animal breeds. In Canada, a cross-section of governmental and nongovernmental organizations engages in similar work: the Canadian Animal Genetic Resources Program (a joint initiative of Agriculture and Agri-Food Canada and the University of Saskatchewan), the CFAGRF, Rare Breeds Canada, and specific breed societies.

3.1 Indigenous Canadian Farm Animal Breeds

In Canada, colonized relatively recently by European agricultural societies, several indigenous farm animal breeds have evolved: among others, the Canadienne cow and Canadian horse in Quebec and the Newfoundland pony and Newfoundland sheep in Newfoundland. In these parts of the country, settled since the early 1600s, the animals evolved with the landscape, the climate, and the ways of life of the communities where they lived and worked.

Although all older farm animal breeds have contributed to Canadian society, this article focuses on two indigenous breeds of particular historical and cultural significance to Canada: the Newfoundland pony and the Canadian/Canadienne cow, whose ancestors accompanied some of the earliest settlers of the regions that would become Newfoundland and Quebec. There, the animals were left to fend for themselves as the immigrant families, grappling with other challenges (Avon, 2007), made no effort to breed different animal types separately (CFAGRF, n.d.). Their “benign neglect” (MacLachlan, 2006, p. 3) approach to animal husbandry resulted in a melting-pot effect whereby the strongest, fittest, toughest, and healthiest animals survived through natural breeding and selection, a process which, over time, resulted in both the Canadienne cow and the Newfoundland pony (Bélanger, 2007; Fraser, 1992).

The Canadienne cow. Today’s Canadienne cow is descended from cattle brought to the North American continent from the French regions of Normandy, Brittany, and Gascony during the 17th and 18th centuries (Bélanger, 2007; CFAGRF, n.d.; Dubé, 2007; MacLachlan, 2006). With time and natural selection, a particular type of cow—small to medium-sized, typically dark brown or black as a mature adult, with lighter coloration along the top line and around the muzzle and udder/scrotum—developed. This breed is known for the following traits:

- hardiness (Association de Valorisation de la Canadienne dans Charlevoix [Association for the Development of the Canadienne Cattle Breed in Charlevoix (AVCC)], n.d.; Avon, 2007; Bélanger, 2007; CFAGRF, n.d.)
- fertility and calving ease (AVCC, n.d.; Bélanger, 2007; CFAGRF, n.d.)
- longevity (AVCC, n.d.; Sander-Regier, 2004)
- gentleness and good nature (AVCC, n.d.; Deglise, 2005; Sander-Regier, 2004)
- intelligence and alertness (AVCC, n.d.; Avon, 2007; Sander-Regier, 2004)
- productivity and economy (AVCC, n.d.; CFAGRF, n.d.; Sander-Regier, 2004)
- ability to thrive in smaller-scale, low-input pasture systems (AVCC, n.d.; Sander-Regier, 2004; CFAGRF, n.d.)
- quality of milk, high in butterfat and protein, good for cheese making (AVCC, n.d.; Bélanger, 2007; CFAGRF, n.d.; Duchesne, Allard, & Rochefort, 2008)

These traits were valuable to the pioneers and subsistence farmers of past centuries. The Canadienne cow provided milk and meat, as well as energy for draft work, as evidenced in historical paintings (Bégin & Laroche, 2003), thereby helping generations survive in the new land. But agricultural trends changed over time, with smaller, seemingly less productive breeds falling out of favour, and government policies encouraged higher-yield dairy cattle (AVCC, n.d.; Bégin & Laroche, 2003; CFAGRF, n.d.; Riedl, 2009). The Canadienne cow, the only dairy breed to evolve in North America (Bélanger, 2007; CFAGRF, n.d.; Deglise, 2005), was nearly lost in the process. The breed remains at risk to this day despite the efforts of such groups as the Société des Eleveurs de Bovins Canadiens and the Fédération de producteurs des races patrimoniales du Québec and the heritage status granted to the breed in 1999 by the Quebec government (AVCC, n.d.; CFAGRF, n.d.; Deglise, 2007; Sander-Regier, 2004). The Canadienne cow currently draws attention for its suitability to small-scale, pasture-based production and cheese making.

The Newfoundland pony. The ancestry of the Newfoundland pony can be traced back to the tough and sturdy Celtic and Moorland pony types that accompanied settlers to the island during the 1700s and 1800s (Fraser, 1992; Government of Newfoundland, n.d.-b; Newfoundland Pony Society [NPS], n.d.). Over the centuries, left to breed naturally and with little influence from outside, a particular type of small horse developed (Fraser, 1992; Government of Newfoundland, n.d.-b; NPS, n.d.; Oosthoek, 1998)—a pony that met historical needs for a working animal in the severe North American climate (Government of Newfoundland, n.d.-b). Sturdy and strong, with a thick mane and tail, furry ears, a heavy coat that can change colour (virtually any uniform shade from black to white) and character with the seasons (Equiworld, n.d.; Fraser, 1992; NPS, n.d.), the Newfoundland pony is noted for its

- hardiness and sure-footedness (Fraser, 1992; NPS, n.d.),
- good nature and gentleness (Fraser, 1992; Horsetalk, n.d.; NPS, n.d.),
- obedience, willingness, and cooperativeness (Fraser, 1992; NPS, n.d.),
- strength and stamina (Fraser, 1992; NPS, n.d.),
- longevity (Fraser, 1992),
- intelligence and common sense (Fraser, 1992; NPS, n.d.),
- ability to thrive on rough grazing (Fraser, 1992; Oosthoek, 1998), and
- versatility (Equiworld, n.d.; Fraser, 1992; NPS, n.d.).

As with the Canadienne cow, these qualities were important in an era when people lived a more subsistence lifestyle than today's and relied on the services and cooperation of an economical animal that could help them with a variety of essential tasks, from ploughing gardens and hauling firewood, to towing fishing nets, carting produce, and providing year-round transportation for families (Equiworld, n.d.; Fraser, 1992; NPS, n.d.). But with the advent of technology in the post-WWII era, as well as new customs and laws that restricted the historic free-roaming ways of the Newfoundland ponies, the small horses lost their jobs and places in the community (Fraser, 1992; NPS, n.d.; Toughill, 2000). People faced with the costs of maintaining ponies year-round sold them, often unknowingly, to the horse-meat industry (Equiworld, n.d.; Fraser, 1992; Toughill, 2000). Newfoundland pony numbers plummeted as a result of all of these factors, and the breed remains at risk today, despite the work of groups like the NPS and

the heritage status granted to the breed by the Government of Newfoundland in 1997 (Government of Newfoundland, n.d.-a; NPS, n.d.). The Newfoundland pony, strong enough to carry children and adults, is today valued for light draft work, driving, and riding (Fraser, 1992; NPS, n.d.). In May 2009, Canada Post released a stamp commemorating the Newfoundland pony (Wilson, 2009).

3.2 Overlooked Capital

The Canadienne cow and the Newfoundland pony, the rich heritage they embody, and the valuable traits they offer to society today represent, as Richard Yarwood and Nick Evans state with respect to farm animals in general, “far more than simply economic assets” (2006, p. 1321). Older breeds are still in demand, with farmers benefiting from their diversity in terms of produce sold and food consumed by the household, as well as fertilizer and other capital (Mendelsohn, 2003). Indigenous farm animal breeds, such as the Canadienne cow and Newfoundland pony, embody overlooked and undervalued rural capital, or “countryside capital.”

4.0 Farm Animals and Countryside Capital

The emerging notion of countryside capital, a relatively new idea with no definitive definition at this time (Garrod et al., 2006; Roberts et al., 2003), has nevertheless been identified as a global concept emerging as the foundation for the success of a good deal of rural economic activity (Roberts et al., 2003), including recreation and tourism. Apparently coined by the UK’s Countryside Agency, which defines *countryside capital* as “the fabric of the countryside, its villages and its market towns” (Garrod et al., 2006, p. 118), with others adding elements such as biodiversity, landscapes, and historic features (Roberts et al., 2003), the concept incorporates natural (e.g., wildlife populations), built (e.g., rural settlements), and social (e.g., local cultural traditions) components (Garrod et al., 2006). These features combine to form the “special character of the countryside” shaped by farmers and rural communities over the course of many generations (Natural England, n.d.).

Countryside capital is further characterized as operating at two levels: (a) tangibility, whereby countryside capital components make physical contributions to the rural landscape and provide resources to accommodate recreational and tourism activities; and (b) intangibility/perception, relating to the role of countryside capital in shaping the backdrop where these activities take place and in forming a distinctive landscape pattern (Garrod et al., 2006; Roberts et al., 2003). The *capital* in countryside capital can be understood as the capacity, including natural, social, and cultural, that provides resources for development (Roberts et al., 2003). Brian Garrod, Roz Wornell, and Ray Youell (2006) stress that the fabric of the countryside is the “lifeblood of rural tourism” (p. 118) without which tourism businesses would not have viable products to attract customers. Rural tourism, at the same time, is a means of protecting the countryside resource and maintaining rural ways of life.

The breadth and ambiguity of the concept of countryside capital provide both opportunities and challenges, to echo Michael Woods’ (2009) statement about rural studies overall, for reflection and discussion regarding the tangible and intangible contributions of heritage farm animal breeds to rural recreation, tourism, and more. I would like to begin, however, by drawing attention to farm animals

and plants as important components of the rural environment that scholars of countryside capital neglect to include in their lists of countryside capital features.

Garrod et al.'s (2006) list of countryside capital elements is extensive. Categories include the following: landscape; trails, bridleways, roads; hedgerows and field boundaries; agricultural buildings; biodiversity; geology and soils; and more (Garrod et al., 2006). But there is no mention of farm animals, or of farm crops. The soils appear empty of oats and barley. The agricultural fields and buildings lack grazing or resting cows and sheep. No horses or ponies trot down the bridleways and trails. At best these elements of agricultural biodiversity are taken for granted as part of the scenery; at worst they have been left out of the picture. Yet, as Yarwood and Evans (2000) point out, animals are finding new roles in the contemporary countryside, where they add cultural, including aesthetic and ethical, dimensions to the countryside experience (Evans & Yarwood, 2007) and environmental benefits to the rural landscape (Yarwood & Evans, 2003).

4.1 Older Farm Animal Breeds and Countryside Capital: Environmental Aspects

Included among the many components of countryside capital are landscape and biodiversity (Garrod et al., 2006). Farm animals, particularly traditional breeds, have roles to play in enhancing and protecting these natural features.

Global biodiversity. As already mentioned, older farm animal breeds have valuable genetic traits to contribute toward global biodiversity, including the following capacities:

- surviving and reproducing in natural environmental and nutritional conditions (Dennis, n.d.)
- thriving and producing by foraging on poor land (Trollope, 1996)
- natural birthing ease and mothering abilities (Lawrence & Mackenzie, 2006; Trollope, 1996)
- disease resistance (Lawrence & Mackenzie, 2006; Trollope, 1996)
- adaptability, resistance, and diversity (Anderson, 2003)

These varied traits are vital not only to the survival of people living complex and risk-prone lives in marginal areas of the world (Anderson, 2003) but also to all production systems requiring raw material for future breed improvement and adaptation to changing circumstances (FAO, 2007a). Maintaining living animals rather than genetic material in gene banks is advantageous because the living animals can continue to adapt to changing conditions as they arise (Small, 1994). The hardiness and adaptability of the Newfoundland pony and the Canadienne cow to Canada's climate, as well as the abilities of both animals to thrive in low-input systems, are traits that would be lost if these breeds were to become extinct.

Landscape preservation. Rare farm animal breeds also have roles to play in enhancing and maintaining the rural landscape element of countryside capital. Heritage breeds not only contribute to the overall character of the landscape through their presence (Yarwood & Evans, 2003) but also offer characteristics that make them good candidates for tangible roles in landscape and vegetation management (FAO, 2007b). Older breeds are being used in what has been termed "conservation grazing" or "naturalistic grazing" to maintain particular landscapes and ecosystems—more so in Europe (Dennis, n.d.; Hodder & Bullock, 2009; Rare

Breeds Survival Trust, n.d.; Small, 1994), where many heritage landscapes have been shaped by agricultural activity. Conservation grazing, however, is being discussed in relation to maintaining grassland ecosystems in North America (Fuhlendorf, Zhang, Tunnell, & Engl, 2002; Kimball & Schiffman, 2003; Kruess & Tschardtke, 2002).

Indigenous breeds, more capable of eating and digesting coarser plants than their softer-mouthed, modern counterparts (Rare Breeds Survival Trust, n.d.; Yarwood & Evans, 2003), can be valuable in maintaining sensitive habitats vulnerable to invasion by tougher plants. Many older sheep breeds, for example, browse as much as they graze and appear to prefer scrubby vegetation (Small, 1994). Heritage farm animals also tend to cause less damage to the ground in wet conditions because they are often smaller and lighter than modern breeds (Rare Breeds Survival Trust, n.d.). Conservation grazing with older breeds has been put forward as an efficient approach for farmers seeking to maintain particular ecosystems in accordance with environmental management programs and agreements (Yarwood & Evans, 2003). The Newfoundland pony, in particular, appears well suited to the conservation grazing task, given its adaptive nature, its strong jaw, and its deep-rooted teeth, all of which enable it to thrive on rough grazing (Fraser, 1992).

Environmental health: sustainable agriculture. Conservation grazing is one way by which rare farm animal breeds can contribute to enhancing and maintaining environmental health. Another contribution is their hardiness, thrift, and self-sufficiency, a set of qualities that require fewer resources and that result in economic and environmental savings. Many traditional breeds, not well suited to intensive farming systems, do particularly well in pasture-based situations that require less capital input and that have fewer environmental impacts (Yarwood & Evans, 2003), in terms of both resources used and waste produced. The Canadienne cow, for example, does not perform well on a diet rich in expensive grain (Lawrence & Mackenzie, 2006). This breed, noted for its smaller size and excellent grazing ability, can go to pasture earlier in the spring and later in the fall when larger animals would cause damage in the wet fields (CFAGRF, n.d.).

Older breeds can also supply draft power and manure fertilizer to agricultural ecosystems, as well as contribute to cycling nutrients, dispersing seeds, and maintaining habitat (FAO, 2007b). If the breed is both a grazer and a browser, small farm operators may be encouraged to plant trees and shrubs for browsing, and leguminous plants for grazing, all of which help conserve water, control erosion, and increase soil fertility (Rege & Gibson, 2003). In all of these ways rare breeds can “contribute to the wishes of society to create a more sustainable agriculture” (Yarwood & Evans, 2000, p. 101).

4.2 Older Farm Animal Breeds and Countryside Capital: Cultural Aspects

Rural settlements and landscapes, with their agricultural buildings, historical features, and distinctive local customs, including foods, crafts, festivals, traditions, and ways of life, are among the cultural features listed as elements of countryside capital (Garrod et al., 2006). Farm animals, particularly heritage breeds, have played key roles in helping settlements and landscapes develop and in supporting distinctive ways of life.

Supporting settlement. Farm animals in North America played important roles in the past, particularly with respect to settling the land and helping communities survive and develop in a new environment. The Canadienne cow has been called *la nourrice de la Colonie*, “the nursemaid of the colony” (Bélanger, 2007, p. 8) because of the many products it provided to colonists who came to the North American continent. The cow’s milk, rich in protein and butterfat, was nourishing and well suited for making butter and cheese. The meat was, and continues to be, tender, juicy (Deglise, 2005), and lean (Dubé, 2007). The cow’s hardiness, productivity, and ability to thrive outdoors on pasture meant its contributions were reliable and economical. Its fertility, calving ease, and longevity meant it was able to supply not only milk products but also offspring who would replace it and continue to provide food when it could no longer produce. Families and communities depended on this breed of cow, today considered a member, albeit scarce, of Quebec’s *grande famille alimentaire*, “greater food family” (Deglise, 2005).

Whereas the Canadienne cow supplied vital products to feed people in the colony growing along the St. Lawrence River, the Newfoundland pony provided essential services to families and communities settling the island of Newfoundland. As Andrew Fraser (1992) writes in his comprehensive book about the breed, the Newfoundland pony’s strength, vigour, stamina, and cooperative nature were ideally suited to the wide variety of work it was employed to perform: hauling traps and boats; drawing gravel for roads, and kelp and capelin for fertilizer; pulling farming implements to plough vegetable gardens and cut hay; carting groceries, fuel, mail, fodder, and harvested produce; pulling logs from the woods in the winter; and providing transportation under harness and saddle to families for medical, religious, leisure, and social purposes. The social function was particularly critical in the winter when many outport communities were icebound and transportation was limited to dogsled or pony-drawn sleigh. In these places the Newfoundland pony was a valued “member of the work force” (Fraser, 1992, p. 125), as well as a measure of status for families. The Canadienne cow and Newfoundland pony were important to the social fabric of their human communities. These breeds helped shape not only settlements but also practices and identities.

Distinctive customs and identity. It stands to reason that the many essential roles played by the Canadienne cow and Newfoundland pony were supported by just as many distinctive human practices and customs. Associated with Canadienne cow products were skills such as hand milking, butter making, and cheese making. Involved in sustaining the cow and other farm animals were various animal husbandry practices related to feeding (e.g., haying), doctoring (e.g., veterinary competencies), and maintaining the overall well-being of the animals.

Similar animal husbandry routines were associated with the Newfoundland pony, as well as the skills and products involved in sled making, cart building, wheelwrighting, blacksmithing, harness making, saddlery, and carpentry (Fraser, 1992), as well as competencies in driving horses, guiding a horse-drawn plough, and horse logging. Fraser (1992) associates these practices and knowledge with what he terms *horse* or *pony culture*, a phenomenon essential to outport community coherence. He points out that ponies were the focal point of much family attention and that respect for the words of the community’s elder horsemen was a key element in communicating practical knowledge and “earthy philosophy”

(p. 135). Fraser stresses that ponies played “a prominent part in the affairs of virtually all communities” (p. 129).

In settler societies, and as recently as the first half of the 20th century, the Canadienne cow and the Newfoundland pony were active participants in the nation’s community development. Through the many essential roles they played in the past, plus the traits they continue to carry, they embody pieces of Canada’s history and offer links to traditional lifestyles and regional identity. They may also carry the keys to our future survival in their genes and in the human knowledge and practices associated with their historical functions and with their potential future roles. With respect to traditional Newfoundland outport society and pony culture, “The twenty-first century will need lessons from these times and these people, if only to give us some ideas on how to maintain environmental harmony, how to value nature, how to have good bonds with animals” (Fraser, 1992, p. 1).

Links to the past and the future. Older farm animal breeds have much to offer to contemporary society and agriculture, including specialty food products, stronger links between customers and producers, and niche products produced locally in an environmentally responsible manner (Yarwood & Evans, 2003). Finding roles for rare and indigenous farm animal breeds in the new economic order (Horsetalk, 2009) has, in fact, been identified as the key to their chances of survival (Lawrence & Mackenzie, 2006; Rare Breeds Survival Trust, n.d.), as well as to “the future of farming” in marginal agricultural areas (Yarwood & Evans, 2003, pp. 140, 155).

Heritage breed products are high in quality, a characteristic that consumers increasingly seek in order to allay concerns regarding food safety (Yarwood & Evans, 2000) and to fulfill desires for more nutritious and flavourful food (Lawrence & Mackenzie, 2006). Rare-breed meat, for example, is known for its succulence, flavour, and eating quality, while milk properties are often ideal for cheese making; rare-breed wool offers unique qualities and colours (Rare Breeds Survival Trust, n.d.). These features are valuable in developing specialty items for niche markets and well suited for direct farmer-to-consumer sales (Yarwood & Evans, 2003).

Yet traditional breeds can contribute to more than just future economic development. Since the historical roles of heritage breeds are closely associated with human skills and knowledge, these animals also offer humanity opportunities to develop and adapt culturally in response to changing conditions. Fraser (1992), for example, stresses the possibility that “a return to pony power” (p. 201) might be necessary in a future where the fuel used in tilling the land may become unaffordable. Literal horse power has, in fact, been highlighted as offering alternatives and independence from the fuel pump, an important consideration in the context of industrial agriculture’s dependence on oil to fuel the machinery used for cultivation and harvest (Courteau, 2007).

Older farm animal breeds serve as valuable bridges between the past and the future in living museums that re-enact older, traditional ways of life (Mendelsohn, 2003) and in popular UK Rare Breed Centres that carefully breed and tend these animals. In both places, the paying public can observe and participate in traditional activities such as horse-drawn ploughing, hand milking, and other “forgotten country skills” (Yarwood & Evans, 1998, p. 153).

5.0 Older Farm Animal Breeds and Rural Tourism

The environmentally and culturally rich contributions of heritage farm animal breeds to the countryside capital that sustains rural tourism (Garrod et al., 2006) makes them potentially valuable partners in developing tourism products in rural regions.

5.1 Agrotourism and Older Farm Animal Breeds

The type of rural tourism to which older farm animal breeds would appear best suited is agricultural tourism, also called *farm tourism*, *agritourism*, and *agrotourism*. This diversity of labels, along with a broad range of activities, makes agricultural tourism difficult to define (Busby & Rendle, 2000). Nevertheless, since agrotourism (the label I will use) has been identified as a phenomenon that is “here to stay” (Nickerson, Black, & McCool, 2001, p. 26) and one associated with the conservation of rare farm animal breeds (Kasperek, n.d.), I will attempt to characterize it here.

I found the Greek National Tourism Organisation (GNTO)’s *agrotourism* definition to be particularly effective:

Agrotourism is a mild form of sustainable tourist development and multi-activity in rural areas through which the visitor has the opportunity to get acquainted with agricultural areas, agricultural occupations, local products, traditional cuisine and the daily life of the people, as well as the cultural elements and the authentic features of the area, while showing respect for the environment and tradition. (Greek National Tourism Organisation, n.d.)

The University of California at Davis Small Farm Center lists an array of “agritourism” activities and attractions, which include farm stays, petting zoos, wagon/sleigh rides, horseback riding, on-farm sales, u-pick operations, roadside stands, harvest festivals, farmer’s markets, cooking classes, agriculture-related crafts/gifts, barn dances, agricultural technical tours, and historical agriculture exhibits (Jolly, n.d.). These activities, taken together with the GNTO definition, demonstrate that agrotourism is a broad and flexible “means of diversification” for farmers (Nickerson et al., 2001, p. 19). Agrotourism has also been discussed as a way to potentially halt rural outmigration by keeping farmers on the land (Sonnino, 2004) and as a strategy for on-site, or in vivo, conservation of rare and indigenous farm animal breeds (Kasperek, n.d.).

Tourism has, in fact, been identified as a new role emerging for traditional breeds by the United Nations Food and Agriculture Organization (FAO, 2007b). Yarwood and Evans (1998) support this suggestion in their portrayal of rare breeds as major tourist attractions in England where Rare Breed Centres breed these animals and feature them in their traditional roles as providers of food and pulling power. Tourists can also experience heritage breeds in farm parks, which seek to create “hyper-real versions of agricultural heritage to attract the paying public” (Yarwood & Evans, 2000, p. 103) or on working farms where traditional breeds are valued for their capacity to thrive outdoors with minimal care, in contrast to modern breeds, which depend on intensive support systems (Yarwood & Evans, 2000).

Older farm animal breeds are generally considered easy keepers, well suited to organic and sustainable agriculture approaches involving outdoor accommodation

and rotational grazing, qualities attractive to small-scale systems, such as part-time farming operations and homestead settings (AVCC, n.d.; Rare Breeds Canada, n.d.), and to farmers seeking to add a tourism element to existing agricultural operations. These qualities would also appeal to amenity migrants, people bringing a new wave of change to rural communities (Stewart, 2000) as they leave the city for the country in search of environments and lifestyles rich in natural, cultural, and social amenities (Chipeniuk, 2008).

The Canadienne cow and Newfoundland pony, with their hardiness, adaptability, and mild temperaments, could make significant contributions to an agrotourism enterprise. The gentle Canadienne cow, for example, could participate in petting zoos and hand-milking demonstrations, and its milk could be fashioned into specialty products sold on-site or at roadside stands and farmers' markets. The sure-footed, strong, and cooperative Newfoundland pony could be employed in pony rides, horseback riding, buggy and sleigh rides, and in demonstrations of horse ploughing and logging. The stories of both of these animals, complete with their contributions to human settlement and society, could be woven into value-added on-farm and regional interpretive and heritage programming.

5.2 Last-Chance Tourism and Older Farm Animal Breeds

The rarity of indigenous farm animal breeds suggests a link with “last-chance” tourism, a new brand of tourism identified by the industry to represent the flood of travellers rushing north before climate change alters that part of the world completely (Buhasz, 2007; Smith, 2008; University of Calgary, 2009). Visitors are increasingly drawn to watch glaciers “dying” (MacInnis, 2006) in Europe and North America (Smith, 2008; University of Calgary, 2009) or to observe polar bears in the Canadian Arctic before they go extinct (Buhasz, 2007; Smith, 2008; University of Calgary, 2009).

This “see-it-before-it’s-gone mindset” (Smith, 2008) may also bring people to see rare and indigenous farm animal breeds because of their scarcity. The presence of older breeds—in petting zoos, at agricultural fairs and festivals, in farm parks and living agriculture museums, on working farms diversifying into agrotourism—could be promoted as a rare opportunity to see, and possibly interact with, exceptional and distinctive animals that are dying out. The chance for close contact with these rare breeds would respond to the need for personal interaction with animals (Hall, Roberts, et al., 2003).

Value-added interpretive and heritage programming that highlights these rare breeds' past contributions to human society can add a twist to such last-chance tourism: the chance to make a difference and reverse their decline. Such a twist has potential wide appeal. Travellers could be encouraged to make a difference by telling the stories of these rare farm animals to family and friends, thereby helping raise awareness about their plight. Tourists can be informed of opportunities to contribute to the preservation of rare breeds regionally, nationally, and internationally by supporting conservation organizations and initiatives. Visitors can be presented with opportunities to halt the decline of rare farm animal breeds by purchasing and consuming specialty products associated with these animals.

5.3 New Roles for Canada's Indigenous Farm Animal Breeds

Canada's indigenous farm animal breeds are beginning to find new roles in the contemporary economic order of the country and in rural tourism and development in particular.

Newfoundland ponies return to the Change Islands. The town of Change Islands is a formerly prosperous, if isolated, island community in northeastern Newfoundland (Brklacich, Woodrow, McLeman, & Vodden, 2008) that finds itself needing to diversify economically in the context of climate change (McLeman et al., in press) and in the wake of the cod fishery collapse and subsequent fishing moratorium (Brklacich et al., 2008). Residents are responding by creating attractions and services to bring tourists to the islands (Brklacich et al., 2008).

In this climate of uncertainty and hope, the Change Islands Newfoundland Pony Refuge has made a significant mark. A unique initiative established in 2005 (Brklacich et al., 2008), the refuge is the only Newfoundland project to focus primarily on carrying out a breeding program in cooperation with the NPS (Stevens, n.d.). The island setting where the ponies graze on pasture land leased for a nominal fee from the town of Change Islands is, according to refuge director Beverley Stevens, ideal for this purpose. The ponies are the only equine residents, and there is no opportunity for them to cross-breed with other horses (personal communication, October 20, 2009).

Stevens adds that the situation was not always ideal. Residents, who had lived decades without ponies roaming freely on the island, did not support the project in the beginning. But the attitude gradually turned around, partly because of the rise in tourism associated with visitors coming to the island to see the ponies, and partly because the community's existence has been acknowledged through pony-related publicity. Change Islands Newfoundland ponies have appeared in television programs, documentary films, and school science projects. Schools send busloads of students to the Change Islands, where refuge ponies are employed to offer pony rides and sleigh rides. Through all this attention, the community has warmed up to the ponies and rallied around their cause. Residents now request that ponies be brought to their yards to trim the lawns, as the small horses used to do before they lost their place in Newfoundland society, and to leave behind manure as fertilizer for gardens, a practice which 5 years ago would have been unappealing. The ponies, Steven points out, are helping residents find their way back to island traditions (personal communication, October 20, 2009).

The Change Islands Refuge herd is slowly growing, along with the roles and services that the ponies will eventually provide. These include buggy rides around the island in the near future, as well as potential employment in a turn-of-the-century living farm project planned for nearby Fogo Island. Stevens, who launched the refuge initiative "out of sheer love of this animal and hoping to preserve it" is obviously pleased that the ponies are popular and that the refuge is thriving (personal communication, October 20, 2009). Sheer love, however, along with personal resources and the palpable energy and determination she puts into the initiative, will not be enough to ensure the long-term survival of the Change Islands Newfoundland Pony Refuge. Stevens says the project needs support, such as government funding or corporate sponsorship. In the meantime, the refuge continues to exist thanks to government Job Creation Partnerships, donations, and volunteer involvement.

The Canadienne cow returns to the Charlevoix. The alpine plateaux and Nordic conditions of Quebec's Charlevoix region and World Biosphere Reserve, with its frost potential and extreme variations in altitude, make high-production agriculture a challenging, marginal, and vulnerable economic activity. Dairy farming, for example, once the main agricultural pursuit in the region, is declining.

In this geographic and economic climate, the AVCC has formed to implement a long-term program uniting Canadienne cow dairy producers and a local cheese maker in (a) developing and managing a traditional-type Canadienne cow population and (b) establishing a regional Canadienne cow dairy network (AVCC, n.d.). The Canadienne cow has much to offer the initiative. The breed, historically associated with the Charlevoix region, contributes attributes advantageous to production in the Charlevoix landscape: hardiness, adaptability, disease resistance, and the capacity to graze in difficult conditions such as steep hills shunned by other dairy breeds (Sander-Regier, 2004). Canadienne cow milk, high in protein and butterfat, is particularly well suited to making cheese (AVCC, n.d.; Bélanger, 2007; Duchesne et al., 2008).

The AVCC is currently working to develop and augment the region's traditional-type Canadienne cattle population. Project partners include provincial government agencies and other groups, but the initiative appears to be largely self-sufficient through mechanisms set in place to share benefits among (a) the AVCC (to support breed reintroduction and development activities); (b) two Canadienne dairy producers currently supplying milk to the network; and (c) the Laiterie Charlevoix, a family-run business that has developed a cheese made exclusively from Canadienne cow milk. The Laiterie Charlevoix, also a Cheese Economuseum, part of Quebec and Atlantic Canada's Economuseum network, which encourages tourists to discover artisanal producers and products on-site (Réseau Économusée, n.d.), officially launched the new cheese, named "Le 1608," in Quebec City during the city's 400th anniversary celebrations in August 2008. A Canadienne cow participated in the event, following in the footsteps of its ancestors who had accompanied some of the first settlers to the colony. This has been described as an occasion "fraught with meaning as it recalled both the Canadienne cow's past, and its future" (AVCC, n.d.).

6.0 Revaluing Farm Animal Breeds: Implications and Conclusions

While the Newfoundland pony and Canadienne cow have today declined in numbers and agricultural popularity, their past, present, and future contributions are nonetheless valued by an array of entities: provincial governments that have granted them heritage status; groups and initiatives struggling to keep these breeds economically and culturally viable; people who visit places where indigenous farm animals are bred; consumers who purchase rare breed products; and communities that benefit from the appeal of rare breeds. In the context of global recognition of the value of agricultural biodiversity in the form of plant and animal genetic resources, and of traditional agricultural knowledge, practices, and ways of life, the importance of conserving rare and indigenous farm animal breeds *in vivo*, as living animals dwelling in and contributing to the rural countryside, would be difficult to dispute. They embody much potential for community and tourism development, and more, in Canada.

Yet despite the tireless efforts of groups and individuals devoted to their survival, populations of older farm animal breeds remain at risk in Canada, as in other parts of the world. What is needed to save these breeds from extinction? Suggestions have come from various quarters. They include, among others,

- a federal government program to record and track populations of older farm animal breeds (Lawrence & Mackenzie, 2006),
- stakeholder involvement and coordination at the national level (FAO, 2007b),
- awareness raising among policy makers (FAO, 2007b),
- policies and legal frameworks that incorporate local needs, indigenous knowledge, and the needs of small-scale farmers (FAO, 2007b),
- support for farm animal conservation efforts on par with support for historic buildings and landscapes (Yarwood & Evans, 2003), including incentives and subsidies for keeping threatened breeds (FAO, 2007b; Yarwood & Evans, 2000),
- support for local farmers, local agricultural networks (Lawrence & Mackenzie, 2006), and niche market production (FAO, 2007b),
- systematic programs to preserve genetic material, including a “Canadian Centre for Animal Germplasm Conservation” (Canadian Farm Animal Resources Foundation, 2003),
- structured breeding programs adapted to low external input, along with conservation programs including in vivo and in vitro methods (FAO, 2007b),
- community-based conservation and breeding approaches involving individual breeders (FAO, 2007b) and local farmers (Mendelsohn, 2003), and
- a clear statement regarding the benefits of conserving animal genetic resources (Mendelsohn, 2003), including their cultural significance and potential community development contributions at the local and regional level, as well as the contemporary economic value of each breed and an indication of its future value based on known trends (Rege & Gibson, 2003).

It is a tall order, yet it seems we can ill afford not to take up the challenge. Who will provide leadership in Canada? Let us open the discussion and take action before our “portfolio” of farm animal diversity (FAO, 2007b, p. 23) is depleted.

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