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ARTICLE



# Managing ambiguous amphibians: feral cows, people, and place in Ukraine's Danube Biosphere Reserve

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## ABSTRACT

This paper analyzes how a herd of feral cattle emerged in the core zone of Ukraine's Danube Biosphere Reserve and why it still exists despite numerous challenges to the legality of its presence there. Answering these questions requires an analytical approach that begins from the premise that animals, plants, substances, documents, and technologies are active participants in making social and political worlds rather than passive objects of human intervention and manipulation. Drawing together insights from multispecies ethnography, animal geography, amphibious anthropology, and studies of nature protection in former Soviet republics, **the author argues** that the feral cattle exist because they are part of an amphibious multispecies assemblage in which relations among cattle, elements of the delta's wetland ecologies, legal norms, and the Reserve managers' documentation practices have aligned to create an autonomous space for cattle to dwell with minimal human intervention.

## KEYWORDS

Human animal relations; multispecies assemblage; biodiversity conservation; law; Danube Delta; Ukraine

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## RÉSUMÉ

Cet article analyse comment un troupeau de bovins sauvages est apparu dans la zone de base de la réserve de biosphère du delta du Danube en Ukraine, et pourquoi il existe toujours malgré plusieurs contestations sur la légalité de sa présence. Pour répondre à ces questions il nous faut une approche analytique partant du principe que les animaux, les plantes, les substances, les documents et les technologies sont des participants actifs dans la construction des mondes sociaux et politiques, plutôt que des objets passifs de l'intervention et de la manipulation humaines. En rassemblant les idées **provenant** de l'ethnographie multi-espèces, de la géographie animale, de l'anthropologie amphibie et des recherches dans le domaine de la protection de la nature dans les républiques ex-soviétiques, l'auteure affirme que les bovins sauvages existent parce qu'ils font partie d'un assemblage multi-espèces amphibie dans lequel les relations parmi les bovins, des éléments de l'écologie des zones humides du delta, les normes légales et les pratiques de documentation des administrateurs de la réserve, s'alignent pour créer un espace autonome où les bovins peuvent habiter avec une intervention humaine minimale.

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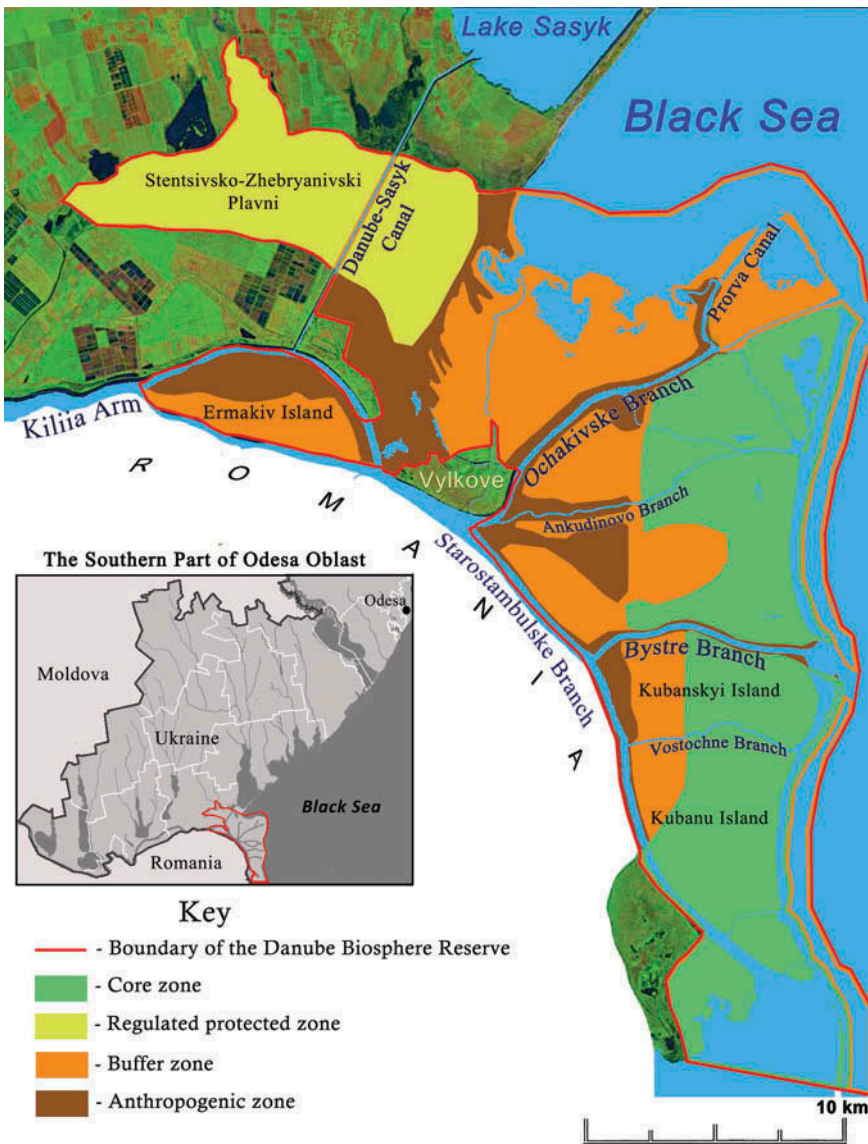
"'You can't *hunt* cattle according to my list of animals!'" Vasyi' Fedorenko, deputy director of Ukraine's Danube Biosphere Reserve, chuckled gleefully as he relayed these

words over dinner at his home in Vylkove on 12 September 2012. Fedorenko was recounting the decision of an ecological inspector who had investigated the Reserve Administration in response to a complaint that a warden had filed with the Ministry of Ecology and Natural Resources (henceforth MENR) after being fired earlier that year. The warden had accused Fedorenko and the Reserve's director, Oleksandr Voloshkevych, of "illegally hunting cattle" on the territory of the Reserve, located in the southern part of Odesa Oblast on the border with Romania. The ecological inspector explained that because the list of animals that can be hunted consists of *wild* animals such as deer, foxes, and boars but not cattle, he did not find Fedorenko and Voloshkevych in violation of Ukraine's administrative code. In hunting, Fedorenko elaborated, animals are killed with a shotgun, while cattle – domestic animals raised on farms – are slaughtered. So where did the warden's accusation come from?

A herd of about 50 feral cattle *does* in fact live on two islands in the core zone of the Danube Biosphere Reserve (figures 1 and 2). And managing it *does* require the use of shotguns and human activity that resembles hunting, although administrators and wardens refer to it as culling (*otstrel*).<sup>1</sup> By 2012, the entire feral herd had been born in the Reserve's core zone, and was living a free-grazing, unsupervised life at the mouth of the Danube's Kiliia Branch. There, they feed – abundantly in summer, less so in winter – on bitter sea buckthorn berries, the feathery branches of tamarisk, the silvery leaves of white willow, and the spring leaves of the common reed as they wander through the coastal dunes, meadows, marshes, and shallow lakes of Kubanu and Kubanskii Islands. On 17 September 2016 I witnessed firsthand how they avoid humans when a large, dark brown bull and cow lying on the cool sand at the water's edge quickly darted inland when our motorboat came within 400 metres of them.

Had the inspector applied the law differently, Fedorenko might have had to initiate the extermination of the whole herd. Yet, the feral herd's removal would have been problematic for several reasons. First, the presence of a certain number of cattle helps maintain diverse and rare plant species in an area designated a wetland of international importance in 1995 under the Ramsar Convention.<sup>2</sup> Second, the wardens supplement their less-than-subsistence wage by selling meat from the culled cattle. Third, the cattle were in the process of being registered as a distinct heritage breed with the Ministry of Agrarian Policy. Although the MENR approves an annual harvest quota (*limit*), other citizens, including the warden, have periodically challenged the legality of the cattle's presence and the Reserve's acts of managing them. So far, however, they have been unsuccessful.

This article sketches an answer to questions that arise out of these feral cows' existence: How did a herd of feral cattle come to inhabit two islands at the Danube's Kiliia mouth? Why have they thus far confounded attempts to use the law to justify their removal? These questions emerge out of anthropological research I have been conducting since June 2008 about the ways in which expanding environmental regulation and the establishment of a UNESCO Biosphere Reserve in Ukraine's Danube Delta in 1998 have affected, and been limited by, the river's human and more-than-human landscapes. Answering these questions requires an analytical approach that begins from the premise that animals, plants, substances, documents, and technologies are active participants in making social and political worlds rather than passive objects of human intervention and manipulation. Drawing together insights from multispecies ethnography, animal geography, amphibious



**Figure 1.** Map showing the zones of the Danube Biosphere Reserve as they existed between 2004 and 2017. The Reserve was rezoned in 2004 to allow for the construction of a shipping canal in the Bystre Branch (see note 95). It was rezoned again in 2017. Figure by Iryna Iakovlieva.

anthropology, and studies of nature protection in the former Soviet republics, I argue that feral cattle exist because they are part of an amphibious multispecies assemblage in which relations among cattle, plants, people, water, sediments, water legal norms, and the Reserve managers' documentation practices have aligned to create an autonomous space for cattle to dwell with minimal human intervention.

With the exception of scholarship on Russia's northern peoples, studies of human-animal relations in Russia and Eastern Europe focus heavily on representations of animals in national



**Figure 2.** Feral cows on Kubanu Island. Photo by Max Iakovliev.

cultures.<sup>3</sup> While there is no volume about Ukraine equivalent to Jane Costlow and Amy Nelson's path-breaking book *Other Animals* about Russia, rich accounts of human–animal relations do exist. With respect to cattle, scholars have produced accounts of the effects of a Lysenko-influenced breeding program in Soviet Ukraine; the magic villagers use in their relations with cattle; and the impact of changing property relations on large-scale livestock farms and individual cattle owners after socialism's demise.<sup>4</sup> However, animals are not given full treatment as co-creators of social worlds in these works in ways that align with the premises of animal and multispecies studies. Further, while these scholars' insights can be generalized to large areas of Ukraine where people keep domestic cattle, this story of feral cattle is unique. It thus reminds us not only of the importance of place in understanding Ukraine,<sup>5</sup> but also of the role of nonhuman agency in place making – an angle that has so far been muted. What makes a place distinctive, however, is not an internal history but the way in which relations of different scales intersect there.<sup>6</sup> This account of animals as active participants in place making thus helps further the agenda of situating the region in global processes.<sup>7</sup>

### **Multispecies relations and law in an amphibious place**

The appearance of the feral herd at the mouth of the Danube's Kiliia Branch provides a vivid example of why social sciences, including of the region, need to account for animals' full-bodied agency and subjectivity. Animal geography and multispecies ethnography are part of a broader movement across the humanities and social sciences that seeks to account for the agentic capacities of other-than-human substances and beings in making social worlds.<sup>8</sup> Scholars part of this broad movement are engaged in re-

evaluating and unthinking modern ontological and epistemological divides of nature/culture, subject/object, human/animal, land/water, living/nonliving, and domestic/wild because of the ecological crises and injustices they have generated.<sup>9</sup> In spite of many commonalities, they nevertheless differ in (and disagree about) the importance they accord to different beings and substances and the quality, degree, and autonomy of their “agency.” 120

In this broader intellectual movement, animal geography and multispecies ethnography have paid particular attention to *living* beings which they view as having agentic capacities that are distinct from nonliving things. Both fields are important in analyzing the Kiliia Delta’s feral cattle because they seek an alternative to studying representations of animals as “passive surfaces on which human groups inscribe imaginings.”<sup>10</sup> Instead, they follow poststructuralist theory and material semiotics which consider persons, animals, things, and materials to be the outcomes of relations, networks, and practices.<sup>11</sup> According to this relational approach, animals, like humans, do not have an inherent nature; rather, their behaviour is contextual and relational in that it is activated by particular encounters.<sup>12</sup> This move requires that we also ask *cui bono* – who benefits from the encounter and how.<sup>13</sup> In turn, the researcher must consider – even if speculatively – an animal’s point of view in a given situation. **Owing** to the elusiveness of the cattle, the inaccessibility of their terrain, and the infrequency of scientific study, I have not employed the methods of animal geography or multispecies ethnography, which draw on techniques from animal ethology and lab sciences alongside ethnography.<sup>14</sup> My claims about feral cattle *will* be somewhat speculative as I track their presence mainly through legal disputes, documents, and conversations with people who have encountered them.<sup>15</sup> Some may not consider this article an example of multispecies ethnography because of my lack of interaction with the cattle and their milieu. It is, however, an argument for widening the methodological scope of multispecies studies to include interspecies relations that are difficult to access corporeally and textually.<sup>16</sup> 125  
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Whereas animal geography tends to focus on a particular animal, multispecies ethnography emphasizes “the multitudes of lively agents that bring one another into being through entangled relations that include, but always also exceed, dynamics of predator **and** prey, parasite and host, researcher and researched, symbiotic partner, or indifferent neighbor.”<sup>17</sup> Multispecies worlds may be thought of as assemblages, open-ended gatherings of relations where the influence of species on each other is never settled as “some thwart (or eat) each other; others work to make life possible; still others just happen to find themselves in the same place.”<sup>18</sup> In my case, cows’ capacity to escape their owners has been enabled by the trees, reeds, bushes, sedges, grasses, and other plants that can sustain them without human care at the mouth of the Danube’s Kiliia Branch. Meanwhile, the Reserve administrators have become allies because the cattle’s presence – in the right numbers – enables diverse, rare, and endemic plant species to flourish while also supplementing wardens’ meagre incomes as a source of meat. 145  
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Following multispecies scholar Eben Kirksey, the Danube’s Kiliia mouth in the Reserve’s core zone can be characterized as an “emergent ecology” which refers to “multispecies communities that have been formed and transformed by chance encounters, historical accidents, and parasitic invasions.”<sup>19</sup> This term aims to reframe the way conservation biology treats issues such as invasive species, extinctions, environmental management, and reforestation. It challenges the way mainstream conservation biology 160

assumes **that** the past is something that should be restored, and that novel ecosystems that emerge around “invasives”<sup>20</sup> are a problem – a view advocated by some influential conservationists in Ukraine. However, what is at stake in the Kiliia Delta is not considered by Reserve administrators, Vylkovchany, or scientists to be an invasive animal species but a feral one. 185

Feral animals disrupt but also get caught in deeply embedded distinctions between wild and domestic animals, and the wilderness and agrarian spaces in which they are considered to belong. The idea of “wilderness” – of timeless, pristine nature – arose from Enlightenment thinking in response to the destruction induced by the capitalist economic system that it fed.<sup>21</sup> Wilderness plays a key role in perpetuating nature/society, human/animal, and domestic/wild distinctions that have influenced the conservation movement’s goal of cordoning off pristine nature into protected areas to prevent human depredation.<sup>22</sup> 170 175

While conservation movements in the Russian Empire in the late nineteenth century were initially influenced by German approaches to wilderness, in the early twentieth century Russian scientists’ ideas diverged as they began to develop a type of protected area called a *zapovednik*.<sup>23</sup> Its purpose was not aesthetic appreciation but rather the advancement of scientific research. *Zapovedniki* were to be spaces of untouched nature where “shooting, clearing, harvesting, mowing, sowing, or even gathering fruit” should stop in order to allow scientists to compare these “models of nature” with nature that had been transformed by humans.<sup>24</sup> Nature protection began in the Soviet Ukrainian delta in 1967. For Vylkovchany, the territories that became part of the *zapovednik* were not considered wild, untouched nature but a landscape that they had actually helped form by stewardship practices such as setting fire to create pastures and clearing waterways in the reed beds to expand fish habitats. Although Vylkovchany’s livelihood is not based on farming, they are similar to other rural dwellers who view their surroundings as part of a “productive, agrarian landscape” rather than pristine nature.<sup>25</sup> In the post-Soviet period new participatory approaches have been introduced in order to overcome top-down decision-making styles and strict access regimes such as the *zapovednik* that exclude rural residents.<sup>26</sup> However, Dutch-influenced visions of a people-free wilderness repopulated by wild animals such as horses are entering Eastern Europe and post-Soviet countries.<sup>27</sup> The emergence of feral cattle shows how multi-species assemblages challenge efforts to disentangle conservationist and agrarian landscapes. 180 185 190 195

Distinctions between wild and domesticated animals are porous, culturally variable, and change through time.<sup>28</sup> Charles Darwin was the first person to use “domestication” to describe “the transformation of animals from wild species into recognized breeds.”<sup>29</sup> While animal domestication was long considered to be about “human control, captivity and profit,” many anthropologists and archaeologists now emphasize that it is a process involving “mutuality, chance, and fallibility.”<sup>30</sup> However, in biology “the word *domestication* enacts a detectable difference between life-forms that are ‘pristine’ and those that are somehow ‘invented.’”<sup>31</sup> While morphological and behavioural differences have long been the key means of distinguishing domesticated from non-domesticated species, with the growing importance of genetics in the life sciences, “wildness” is now located in genotype rather than phenotype.<sup>32</sup> Consequently, biologists’ accounts of “domestication” play a key role in asserting which beings do and do not have value for 200 205

conservation.<sup>33</sup> This subsequently informs laws concerning not only the species themselves, but also land use and zoning. For example, the dramatic expansion of salmon aquaculture in Norway has not only produced key distinctions among salmon in terms of “farmed” and “wild,” but has also led to the designation of farmed salmon that escape their pens and return to rivers as “alien,” and therefore a threat to their “wild” brethren.<sup>34</sup> 210

The wild/domestic and alien/native distinctions frame the way in which “feral” is understood in many conservation contexts. Biologists consider feral animals to be domestic animals that have reverted to a wild (untamed) state, and whose reproduction is no longer managed by humans.<sup>35</sup> While some scientists contend that feralization is the reverse of domestication, others dispute this because it would require evolutionary-scale genetic change that is not evident or is at least difficult to demonstrate.<sup>36</sup> While feral animals’ bodies subvert the wild/domestic distinction through their transgressions of conceptual and spatial boundaries, such transgressions do not result in the dismantling of these divides in societies that uphold them. Instead, perceptions of feral animals oscillate between being considered “wild” or “domestic” as part of broader processes of social and ecological change.<sup>37</sup> Moreover, as they shift categories, people’s valuation of them may change too. 215 220 225

The feral cattle in the core zone may be “matter out of place,”<sup>38</sup> according to a certain reading of Ukraine’s Law on Protected Areas, Forest Code, and Civil and Criminal Codes. “Matter out of place” is Mary Douglas’s term for the confusion that arises when the transgression of social categories and their corresponding spatial boundaries occurs.<sup>39</sup> However, neither multi-generational Vylkovchany nor Reserve administrators consider the feral cattle “alien.” This contrasts with the way in which some feral animals have been construed in relation to the wild/domestic and alien/native dichotomies in settler-dominated Australia and North America.<sup>40</sup> For example, in Australia the term “feral” includes introduced wild animals such as deer and foxes, or those that were once domestic but now live away from humans such as cats and dogs.<sup>41</sup> While feral cats are widely construed as a “crazed” and “diseased” threat to biodiversity, deer and rabbits are now valued as a healthy alternative to industrially produced meat.<sup>42</sup> In my case, feral cattle emerged as “wild” first in attempts to herd them out of the core zone, and later in the act of killing them with shotguns because this resembled “hunting” (which the law could only recognize in relation to certain animal species). At the same time their “wildness” enabled the Reserve to justify their presence and their approach to reducing the herd. Yet the cattle became more “domestic” in the course of scientific research into their genetics that led to their designation as heritage breed useful for livestock rearing. 230 235 240

The spatial aspect of human–animal relations is important in my case because the presence of feral cattle in the core zone challenges legal classifications of animals and land-use zones. However, the materiality of the delta’s amphibious landscape and its marginal geographical location are also crucial in understanding the feral herd’s formation. Readers may be surprised that I use “amphibian” to refer to cows and people, beings that are mammals according to evolutionary taxonomy. However, some scholars are using “the amphibious” as an analytic framework to capture the predicaments of human and nonhumans who live in environments, such as river deltas, marshes, or floodplains that are regularly subject to inundation and where land/water boundaries cannot be taken as given.<sup>43</sup> For example, Franz Krause has elaborated an anthropological approach to “the amphibious” that circumvents land/water binaries by emphasizing 245 250



the centrality of volatility, wetness, and pulsing rhythms in the hydrosociality of places such as river deltas.<sup>44</sup> “Amphibious” thus becomes a relational concept that directs attention to distinctive more-than-human socialities rather than designating what is inherent in a being’s biological make-up. Some multispecies scholars differentiate between the agencies of nonliving elements such as water and the more intentional agencies of beings that are “alive” (as understood in the biological sciences).<sup>45</sup> By contrast, “the amphibious” mutes the living/nonliving distinction because of the need to account for the forceful presence of water and sediments in forming some landscapes and multispecies assemblages.<sup>46</sup> Indeed, a Ukrainian engineer’s description of the bars at the Kiliia mouth as “living beings” that “move” shows how such a distinction can seem irrelevant.<sup>47</sup> People’s and cows’ relations with the muddy, fluctuating, unpredictable, and difficult-to-traverse terrain at the Danube’s Kiliia mouth are thus key to understanding the emergence of what we might call feral bovine amphibians. 255 260 265

The Kiliia Delta’s amphibiousness facilitated the cattle’s feralization not only because of its muddy and remote terrain, but also in how it intersected with Soviet and post-Soviet practices of environmental governance. The network of *zapovedniki* created by the Soviet Union’s conservationist movement has been described as an “archipelago of freedom” because of the remarkable degree of autonomy it maintained.<sup>48</sup> Moreover, through the creation of national parks and reserves in places such as Latvia and Buriatia, national groups were able to attain an unusual degree of cultural autonomy.<sup>49</sup> While these and other cases illustrate how Soviet citizens created autonomous spaces through their relations with nature,<sup>50</sup> my article describes how a protected area at the geographical margin of the state became a zone of autonomy (and refuge) for domestic animals who escaped their owners. 270 275

The formation of an autonomous zone by and for the cattle, assertions about its legality, and the killing involved in creating it, all point to the issue of sovereignty. As the Soviet Union disintegrated, local (sub-state) sovereignties emerged that were suspended outside yet within institutional state power.<sup>51</sup> Caroline Humphrey describes the emergence and operation of a privatized, mafia-run, mini-bus/taxi system in Buriatia’s capital of Ulan Ude, “which had its own law and was illegal from the point of view of official law.”<sup>52</sup> While the feral herd situation has some affinities with these sovereignties it also differs in important respects. To begin, the Reserve, its core zone, and the Academy of Sciences of which the Reserve is part are legal, official state structures. It is the legality of the herd’s presence that is ambiguous. Yet, Voloshkevych and Fedorenko did not engage in types of informal practices that are widespread across the former Soviet Union.<sup>53</sup> In other words, they did not turn a blind eye to the cattle’s presence or cut deals with cattle owners and law-enforcement agencies. They also did not shoot the entire herd so as to follow a strict formalistic reading of the law. Instead, they reference specific articles of the law and treat the herd’s presence as legal. They have generated a paper trail documenting each decision, devised a system of documenting wardens’ ownership of the cattle, and developed documentary protocols for shooting them. When challenged by law-enforcement agencies, administrators defended the legality of their actions (and the cattle’s presence) including in court. Their production of documents has thus played a key part in maintaining an amphibious multispecies assemblage at the Kiliia mouth.<sup>54</sup> 280 285 290 295

## Of sediments and settlements in the Danube's Kiliia Delta

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The Danube's high sediment load and the absence of tides in the Black Sea are key factors in the formation of its large delta.<sup>55</sup> The Kiliia Delta – this paper's focus – began forming 350–400 years ago when the Kiliia arm broke through the Zhebriian sand ridge and has some of the youngest land in Europe.<sup>56</sup> Its islands' dish-like shape has been created through the deposition of silt on natural levees along river branches during flooding, and as a result of the sea's wave action which forms barrier islands, spits, and dunes along the coast.<sup>57</sup> While barrier islands are important nesting grounds for gulls and terns, the shallow waters between spits and dunes are important habitats in which migratory birds such as pelicans, herons, and swans rest and feed en route between North Africa and Europe. The Kiliia mouth's undulating terrain, where spits-become-dunes-while-enclosing-sea-to-form-lakes-which-become-reedmarsh, reveals the inseparability of ecological successions from hydrological and geomorphological processes. These successions are most visible in the shifts from xerophytic vegetation of spits and dunes (for example, sea buckthorn [*Hippophae rhamnoides*] and tamarisk [*Tamarix ramosissima*])<sup>58</sup> to aquatic and marsh species of inundated areas (e.g., plants of the *Potametea*, *Lemnetea*, and *Phragmiti Magnocaricetea* classes)<sup>59</sup> to the mesophytes in meadows along the natural levees (for example, water pepper [*Polygonum hydro-piper*], creeping bent grass [*Agrostis stolonifera*], European bugleweed [*Lycopus europeaus*], goat's rue [*Galega officinalis*], and water mint [*Mentha aquatica*]).<sup>60</sup>

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Currently, roughly 80% of the Danube's 4200 square-kilometre delta is located in Romania and 20% – including the entire Kiliia Delta – is in Ukraine. However, the Danube Delta has been a zone of shifting state and geopolitical borders and home to mobile, multi-ethnic populations for millennia. Russian Old Believer Nekrasov Cossacks arrived in this part of the delta in the mid-1700s around the time the Kiliia Delta began forming, attracted by the rich fish stocks, the proximity of markets, and the possibility to practise their faith without persecution.<sup>61</sup> Vylkove – originally called Lipovanskoe from "Lipovan,"<sup>62</sup> the name that came to designate Old Believers in the Danube Delta region – was one of five such settlements to emerge on the right and left banks of the Kiliia branch around this time.<sup>63</sup> Ukrainian Zaporizhzhian Cossacks also settled in the area to escape persecution after Katherine II's dispersal of the Sich on the Dnipro River.<sup>64</sup> While the first Old Believers arrived by sea, later waves of migrants came over land from different directions. Although settlers did pasture cattle, fish have been much more central to Vylkovchany's livelihoods and identity.<sup>65</sup> Contemporary Vylkovchany underscore the hard labour of living an amphibious life as humans in their ubiquitous use of the phrase "by hand and by boat" in their place narratives.<sup>66</sup>

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The southern part of Odesa Oblast belonged to Romania between World War I and World War II but became part of the Soviet Union in 1944. While fishing in Vylkove was formally collectivized in 1959 with the establishment of the Lenin Fishing Collective,<sup>67</sup> in contrast to neighbouring areas, no collective agricultural enterprise was created because large areas of the Kiliia Delta were inundated for long periods each year and unsuitable for collectivized agriculture. The territories surrounding the town became subject to the Forest Code in 1947 after they became part of the Izmail Forest Service.<sup>68</sup> However, individuals who lived on the Kiliia Delta's islands prior to 1944 retained their garden plots of 1–2 hectares.<sup>69</sup> The number of gardens along the Kiliia Delta's various branches expanded in the 1970s and 1980s, and as of 2010 they occupied 96 hectares.<sup>70</sup> The natural levees beyond residents' garden plots were used as commons for pasturing cattle and cutting reeds to feed them. The Forest Service was

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lax in its control because it did not consider these swampy areas particularly valuable. From the late 1960s until the end of the Soviet Union, the delta was part of a closed border zone and special passes were required to enter. 345

Vylkove – a town with an official population of 9260 according to the 2001 census – has endured forms of economic decline characteristic of other villages and small towns after the Soviet Union's disintegration.<sup>71</sup> Since 1991, nearly every state enterprise has closed. A cartel of fishing firms has replaced the fishing collective and hires fishermen seasonally for different catches such as herring, mullet, or carp. Incomes from gardening, which were several times the size of official salaries during the Soviet period, have dwindled owing to the rising cost of inputs.<sup>72</sup> The Reserve facilitated the establishment of tourism and reed-harvesting firms not only to create new forms of employment for residents, but also to collect fees from resource users in order to cover operational costs that the state budget no longer funds. However, the market cannot support many firms, employment is seasonal, and few make their living solely from any activity, be that fishing, gardening, pasturing, tourism, or reed harvesting. 350 355

The Danube Delta remained the site of a remarkable variety of habitats and species in spite of the construction of large-scale infrastructure for shipping, flood protection, land reclamation, and irrigation.<sup>73</sup> Nature conservation in the Soviet part of the delta began in 1967 when a small protected area – a monument of nature (*pamiatnik prirody*) – was created in the Kiliia mouth along the Black Sea coast. It was expanded in the 1970s, partly as a result of the Soviet government's efforts to implement its commitments under the Convention on Wetlands of International Importance in 1971 (the Ramsar Convention).<sup>74</sup> In 1981 the Dunais'ki Plavni Nature Reserve was established as a separate reserve within the Academy of Sciences with an expanded area of 14,851 hectares. Beginning in 1967, a strict protection regime was imposed which prohibited Vylkovchany's forms of resource use such as water-nut harvesting, berry picking, and cattle pasturing. However, an exception was made for industrial fishing because of its economic importance. 360 365 370

In the early 1990s, dual World Bank projects were initiated to create biosphere reserves in the Romanian and Ukrainian parts of the delta.<sup>75</sup> This happened concurrently with the expansion of global initiatives to conserve biodiversity before and after the 1992 UN Conference on Environment and Development. The term "biodiversity" arose in the mid-1980s with the emergence of the new field of conservation biology as a way to capture public attention regarding the rapid increase in the rate of species extinction. It refers to the diversity of life at the level of genes, populations, species, and ecosystems and has helped give rise to new forms of conservation practice, many of which embrace the logics of neoliberal capitalism (for example, selling nature to save it).<sup>76</sup> Ecotourism – a strategy promoted by biosphere reserve administrations on both sides of the Danube Delta – is part of this ensemble. While considerable research was conducted on the Kiliia Delta's flora and fauna in the 1980s, the World Bank project funded more extensive research not only to inventorize species but also to propose effective management strategies to maintain them, including in relation to pasturing.<sup>77</sup> 375 380 385

Voloshkevych and Fedorenko, born in 1959 and 1955 respectively, began working in the Dunais'ki Plavni Reserve in 1993–94. Voloshkevych, originally from Khmelnytskii, is an ichthyologist and has a candidate degree in biology, while Fedorenko, who was born in a small village in Zhytomyr Oblast, has a candidate degree in history. They oversaw the transformation of the Dunais'ki Plavni Reserve (DPR) into the Danube Biosphere 390

Reserve (DBR) – formally established in 1998 by presidential decree – and developed the current system to manage the feral herd.<sup>78</sup> The DPR became the core zone of the new DBR where the strict protection regime remained largely unchanged. Article 16 of Ukraine's Law on Protected Areas prohibits most resource use (and thus people's presence) in the reserves' core zones similar to the Soviet Law. Article 16 *does* allow biosphere reserves to allocate plots to wardens residing in core zones for the purposes of cutting hay, gardening, pasturing cattle, and so on.<sup>79</sup> Although unstated, the cattle envisioned here would be domestic and under supervision. Biosphere reserves are distinguished from other types of reserves by their zoning system (core, buffer, anthropogenic zones) in which permissible activities vary.<sup>80</sup> Resource use also remained largely unchanged in new territories added to the Reserve in 1998 until 2010 (Figure 1).<sup>81</sup>

Relations between Vylkovchany and administrators of both reserves have often been contentious. Many Vylkovchany continue to think the state appropriated territory belonging to townspeople, territory to which Tsar Aleksandr I had given them unlimited access.<sup>82</sup> Many also consider Reserve administrators poor environmental stewards. This is because the prohibition of gathering and clearing activities led to lakes becoming overgrown, as a result of which fish habitats were diminished. Feral cattle were one of the most controversial issues in relations between the administration and some residents in the 1990s.<sup>83</sup> It is to that story that I now turn.

### Feral cattle in a (post)socialist emergent ecology

Domestic cattle have been pastured along the Kiliia branch near the Black Sea coast since at least the late nineteenth century.<sup>84</sup> However, Fedorenko claims the feral herd appeared on the islands of the mouth of the Kiliia Delta in the DPR in the mid-1980s.<sup>85</sup> This suggests that the confluence of lax late socialist and early postsocialist governance, place-based pasturing practices, and the delta's form and vegetation produced an "emergent ecology" which included cattle that began reproducing successfully on their own without human supervision.

During the interwar period, pasturing occurred mainly to the north of Vylkove and around the village of Prymors'ke along the Zhebriian sand ridge.<sup>86</sup> Over-pasturing led to significant changes in plant cover, and after World War II pasturing cattle shifted to the Kiliia Delta islands.<sup>87</sup> Between the late 1970s and 1980s, Vylkovchany expanded their herds on several islands, including those on which the Reserve was located, by transporting cattle by boat (in the case of a single calf) or barge (for larger numbers). One friend's amphibious methods of getting a cow and her calf from the mainland to a nearby island involved enticing the cow to swim as my friend and the calf (tied up and mooing) made their way in his 20-foot-long wooden fishing boat. Cattle pastured in a free-grazing manner on riverbanks (*na vol'nom vypase*) without supervision (*bez pastukha*). This meant that cattle could wander in search of reeds, rushes, grasses, and shrubs. While they could not swim long distances across the wider, deeper channels, they could make it across smaller ones. At this time, no demarcations or natural boundaries existed to keep cattle out of the Reserve and so they were free to enter.

Vylkovchany's ownership and pasturing practices were unique in Soviet Ukraine and, I suggest, a sign of local autonomy facilitated by ecology, terrain, and geographical location.<sup>88</sup> Since island pastures belonged to the Forest Service, Vylkovchany were

officially required to purchase a forest ticket while cows should be tagged and supervised. Few, however, obtained a ticket and tag or supervised their cattle. After seeing the large, free-grazing herds on the delta islands, a warden who arrived to work in the Reserve in 1975 from Lviv Oblast in western Ukraine had the impression “that there was no Soviet authority here” (*shcho tut ne bulo radians'koi vlyady*).<sup>89</sup> In his village, owning a single cow was a challenge because the presence of the collective farm limited pasture, and it was difficult to find sufficient hay to feed the cow through the winter. Residents’ ability to pasture 10 or more cattle without tags, permits, or supervision testifies to a distinctive kind of autonomy that persisted in Vylkove and the Kiliia Delta in spite of the expansion of the Soviet Union’s modern state administration.

Meanwhile in the 1970s, collective farms from nearby districts regularly brought their herds to pasture in the islands of the Kiliia Delta because they could economize on feed. However, farm workers thought pasturing cattle in the delta was “a nightmare” because many cattle were lost.<sup>90</sup> These cattle were used to the steppe’s expansive, solid pastures. Some perished on the islands because they drowned or got stuck in the mud when they tried to drink from river channels or from ponds. Others, however, escaped to remote areas of the delta along the sand ridges in the core zone where they were able to adapt and survive.<sup>91</sup>

By the mid-1980s, residents’ unsupervised cattle and escapees from collective farm herds began to reproduce on their own and formed “a completely wild herd” that “penetrated deep [into] the territories of the Reserve.”<sup>92</sup> One reason for its formation was the fact that the dunes at the mouth have a higher elevation than do the riverbanks upstream closer to Vylkove. This makes them a safer place on which to shelter during flooding or Black Sea storm surges caused by easterly winds. While cattle can adapt to a certain extent to the delta’s amphibious terrain, biologically they remain mammals and will therefore die from hypothermia if they stand in cold water too long.

Fire is another factor in the cattle’s appearance in the Reserve’s territories. While fires occasionally occur naturally as a result of lightning strikes, most fires are set by residents. Some do it to create a fire protection zone adjacent to their gardens that can stop a fire that is moving towards their plot. Others set fires to stimulate the formation of meadows on which cattle can graze. While this was a traditional form of ecological management, it was against Soviet law and is against the law in Ukraine. Nevertheless, it continues to be practised because it is hard to catch the person who sets the fire. Given that cattle remain in the delta year round, fires sometimes caused cattle to flee in the direction of the Reserve’s territories.

As long as the cattle pastured outside of the Reserve, cattle owners still had some contact with their animals and knew precisely how many they had, their sex, and their colouring. However, once the cattle entered the Reserve, their owners lost contact with them for years. Residents “lost” their cattle not only because they were prohibited from entering the Reserve’s territory to retrieve their cattle. It was also because pasturing cattle was a sideline to their main income from gardening or fishing. This meant that the “loss” of a cow or two in a herd of 10 was less of a concern than for someone who depended exclusively on such a herd. According to Fedorenko, this casual attitude to owning cattle contrasts with the rest of Ukraine where families related to a cow “as if it were a member of their family” and is also key to understanding the feral herd’s emergence.<sup>93</sup>

When Ukrainian and World Bank scientists began conducting research in 1993 to provide justification for a \$1.5 million Bank project, 200 feral cattle were living in the Dunais'ki Plavni Reserve. According to Fedorenko, 30 cattle belonged to two wardens. While the protected area law did not permit residents to pasture cows in the Reserve, the Dunais'ki Plavni Reserve founding document (*polozhennia*) permitted wardens to have four cows, a norm borrowed from the Soviet Forest Code. The Forest Code (and the Civil Code) required that these cattle be supervised and contained (norms that still exist). However, the wardens' cattle roamed and reproduced freely with residents' lost cattle, which led to an increase in their numbers far beyond what the Forest Code permitted them to own. While residents were prohibited from entering the territory to kill their cattle, wardens were permitted to do so. The Reserve's file on cattle contains a petition written to the Prosecutor by the director who preceded Voloshkevych complaining about the ownerless (*bezkhoznyi*) domestic cattle. However, no action was taken until Voloshkevych and Fedorenko took over administering the Dunais'ki Plavni Reserve as the World Bank project began.

The feralization of cattle in the Kiliia Delta was made possible by a variety of amphibious multispecies relations which included the lack of attention on the part of humans in positions of authority who might have intervened to stop this process, and by Vylkovchany's rather casual property relations with their cattle. The abundant vegetation, mild winters, the existence of a *zapovednik*, the mix of firm and muddy terrain, and the delta's location in a border zone enabled the cattle to establish a way of living with minimal human intervention. Although wardens showed up periodically with shotguns to lay claim to their bodies for food, the cattle were able to proliferate more quickly than even their "owners" could keep track of.

### Biodiversity conservation and culling feral cattle

In 1994 the multispecies assemblage around feral cattle underwent a major change when it collided with globally circulating models of biodiversity conservation amidst the unravelling of Soviet life. As a result, the quantity of cattle, but not their presence in general, became a problem. A certain number of them thus became "killable" because of the threat they posed to diverse species and habitats in a Ramsar wetland.<sup>94</sup> The way in which the Reserve administrators handled this process, documented it, and created a system to manage the size of the herd, reconfigured the multispecies assemblage in ways that have allowed the herd to survive without exhausting pasturing resources. In this new assemblage, their existence promoted diverse and rare plant species and helped feed wardens (and their clients). It did, however, involve the killing of a large number of animals in a short span of time and generated antagonism with some local residents that has come back to haunt administrators on more than one occasion.<sup>95</sup> This new assemblage differs from its predecessor not only in terms of the number of feral cattle, who owns and kills them, and the consideration of plant life, but also in the important role played by documents and the law in maintaining it.

The large number of cattle in the Reserve was considered a problem for two main reasons. First, while moderate pasturing in the Kiliia Delta increased species diversity including neoendemics such as thyme-leaved sandwort (*Arenaria serpyllifolia*), Odesan chickweed (*Cerastium odessanum*), wild alfalfa (*Medicago kotovii*), and Odesan knapweed

(*Centaurea odessana*), excessive pasturing on the spits destroyed bush undergrowth, 525  
caused harm to psammophytes, and turned some areas into *solonchak* – highly saline  
soil that supported numerically fewer species and can sustain fewer cattle.<sup>96</sup> Second,  
managers faced pressure to enforce national laws (for example, the number of cattle  
wardens could own) and uphold international environmental commitments (such as the  
Ramsar Convention)<sup>97</sup> because of more intense scrutiny from Ukrainian and World Bank 530  
officials during project implementation.

Between 1994 and 1998 (before the DBR was formally established), Fedorenko and  
Voloshkevych began a process of reducing the herd from 200 to 50, the number  
scientists set as having a positive role in maintaining wetland biodiversity.<sup>98</sup> Fifteen  
residents were identified as having cattle in the Reserve.<sup>99</sup> When residents and wardens 535  
claimed that the animals could be herded out of the Reserve, Voloshkevych and  
Fedorenko agreed to try this method. Twice, 20 men travelled by boat to the spit at  
the Bystre Branch's mouth where they formed a chain and tried to herd the animals up  
the riverbank. Fedorenko explained:

The cattle walked, and walked, and walked. And then suddenly, they turned around and 540  
began to charge us. Our chain broke up and the cattle returned to those areas where they  
had peacefully existed before we came to herd them out. After two attempts, we under-  
stood that we could not resolve this problem this way. Local residents understood this too.  
Then we realized it could only happen through culling.<sup>100</sup>

No one had understood what the animals had become, and that they could no longer 545  
be managed as domestic cattle.

Fedorenko and Voloshkevych then announced via newspapers that owners  
needed to shoot their cattle within six months. After 10 October, the Reserve  
administrators would make a decision on how to deal with the rest.<sup>101</sup> Fedorenko  
explained that: 550

people did not see how many they had, and how they reproduced. But each year, the cows  
will calve. Do they have a male or female? There was confusion. We calculated how many  
they had arithmetically according to the theory of probability. If you have a male and female  
calf, then in two years you will have another female and male.<sup>102</sup>

The Reserve and each resident agreed upon a number, signed a document, and over 555  
a period of six months the owners shot "their" cattle.

Even after cattle owners (including one warden) culled their cattle, the number of  
cattle in the core zone remained well above the accepted level. Some belonged to a  
second warden (a local person) who evaded the new rules, was subsequently fired, and  
gave up his claim to his cattle. Others waited too long and were unable to retrieve their 560  
cattle because it had retreated so far into the muddy marshes out of fear caused by the  
frequent shootings. The Reserve classified the remaining animals as "feral ownerless  
cattle" (*odichavshyi bezkhoznyi skot*). They then began to cull some of them (around  
**forty**) and to distribute the meat to Vylkove's schools, hospitals, daycares, and the border  
guard post – at first free of charge, then at below market cost.<sup>103</sup> An excerpt from the 565  
minutes of the Scientific Technical Coordinating Council from 22 December 1997 reads:  
"... in connection with the large wage arrears in school #1 and in the Reserve and the  
unsatisfactory provision of foodstuffs to the border post we will provide for the above  
organizations a quantity of beef of culled ownerless cattle." Each time, the Reserve

signed a contract with the institution stating how much meat was delivered, who took part in the shooting (including a representative of the institution), and that the receiving institution was responsible for organizing the meat's inspection by the Vylkove market's head veterinarian. 570

Two legal conflicts during the process of reducing the herd are instructive for grasping the biological, territorial, and legal ambiguities of feral cattle's existence. In one instance, a school director did not get the meat inspected by the town's head veterinarian. When the vet (whose office is located next to the school) found out, she investigated. The school director claimed that the Reserve was responsible for organizing the meat's inspection. As a result, the vet submitted a report (*protokol*) to the Kiliia District Prosecutor accusing the Reserve of failing to have the animals medically examined. This is part of Voloshkevych's written response to the Prosecutor: 575 580

Our efforts to cull the cattle with a shotgun were ineffective because the cattle did not allow us to come near enough to kill them. In terms of their origin and behaviour they are no different from wild ungulate animals such as deer and boars. For that reason it is impossible to conduct a physical examination and vaccination of these animals [prior to culling them].<sup>104</sup> 585

Here the cows' wildness emerges in the act of distributing their bodies as meat.

In another case, the head of the Kiliia District Court criticized the Reserve for not following the legal norms on how to deal with ownerless cattle after some local residents complained. He claimed administrators could have tranquilized the cattle, dragged them to the riverbank, lifted them by crane onto a barge, and transported them to town. He even wrote to the President of the Academy of Sciences to complain about how DBR administrators had handled the situation. Fedorenko explained that article 139 of the Civil Code,<sup>105</sup> which dealt with ownerless cattle, envisioned a person living in a village surrounded by solid fields whose tagged, tame, domestic cow wanders off. The person who finds the cow should place an advertisement in the paper, notify local authorities, and look after the cow until its owner is found. The marshy terrain, across which it would have been impossible to drag the cows' bodies, also made the court's proposals impossible to realize. Fedorenko's response to the head of the court is revealing: 590 595

This is not a case of ownerless cattle that got lost from a herd at a collective farm. It is wild – feral domestic cattle – and can't be treated in the same way. We have a Reserve here, and these cattle are causing harm, so something has to be done. The law doesn't say we can't do this. So we have to assume we can.<sup>106</sup> 600

Summing up the situation on another occasion, Fedorenko said:

Our actions were radical. They did not fit our legal norms. The court seemed to take the position of the law. But feral cattle is a phenomenon that does not have legal expression (*pravovoe oformlenie*). We played with the absence of a legal mechanism in order to resolve the problem. The Academy of Sciences saw there was no other rational way of dealing with the situation.<sup>107</sup> 605

In the early 2000s administrators created a distinctive system for managing the feral herd in the core zone to keep its size in check and to help wardens supplement their salaries. On the basis of the DBR's 1998 founding document (*polozhennia*) and harvest quotas (*limity*), administrators created a distinction between the "wardens' herd" and the "ownerless herd" even though the cattle formed a single feral herd on each island. The 610



1998 version of DBR's founding document explicitly mentioned the herd in its core zone and that wardens employed there may each own four cattle. When the MENR introduced harvest quotas in the early 2000s, the DBR provided information about the number of feral cattle belonging to wardens and the number classified as "ownerless." New wardens hired to work in the core zone were each given permission to acquire four cows from the excess cattle that had belonged to the two original wardens (one of whom remained employed). The Reserve produced a regularly updated inventory (*akt*) signed by Fedorenko and Voloshkevych that referenced the DBR's *polozhennia, limit*, and (after 2010) its *proekt orhanizatsii teritorii* (territorial organization document) that recorded the number and sex of the cattle belonging to each of the six wardens and the island on which they were located (the island of the warden's border post). For example, the *akt* for 2009 indicates that "Sergei" has one bull, two cows, and one calf up to one and a half years of age on Kubanu Island. But "Sergei" did not own a particular cow in the same way that he would have if it were a tame, domestic cow with a tag attached to his name because this would have been impossible to organize. If the warden moved to the other island post, the cattle were transferred there even though they were not physically moved. If the warden left his job, he had to kill his cattle or sell them to another warden. If a cow died during the winter, it was subtracted from the "ownerless herd."

The Reserve also devised rules and documents for shooting the cattle. If a warden wanted to kill one of his cattle, he submitted a formal application to the Reserve Administration indicating which type of cattle (cow, bull, female calf) he planned to shoot and on which island, and was given a week to do so. He took the original form with him in case he was stopped by a border guard or another inspection agency while a copy remained with the Reserve Administration. On the warden's return, he reported on whether he succeeded together with the sex and age of the animal, and this was marked down on the two copies of the application. If he did not succeed in killing a cow, this too was noted.

Reducing the herd was controversial. Even though Fedorenko and Voloshkevych allowed residents to take the cattle they claimed, many Vylkovchany were irritated by the fact that *some* cattle remained in the Reserve and that wardens (most of whom were also Vylkovchany) could shoot them. Some perceived the existence of the herd as a sign of an expropriation of townspeople's property. Others thought that if residents could not pasture cattle in the Reserve, ALL the cattle should be removed. Vylkovchany were not particularly concerned about the fate of rare plants and the animal life they supported and some claimed the Reserve administrators cared more about frogs than people.

The legal status of the feral herd became less solid when the Ministry of Ecology and Natural Resources changed the Reserve's founding document in 2010. Officials removed the explicit statement about the warden's cattle in the core zone and replaced it with the general wording from Article 16 of the Law on Protected Areas. The founding document and territorial organization document approved by the Ministry in 2010 also contains wording from Article 16. While the Reserve continued to secure harvest quotas from the Ministry, the warden who was fired tried to exploit the lack of reference to cattle in the core zone in these two key documents and the prohibition of hunting in protected areas to take revenge on his previous employers. However, the fleshy ambiguity of these bovine amphibians produced the

categorical confusion in the warden's wording of his complaint. This provided the inspector with a legal argument that enabled him to dismiss it. 660

The intensified international scientific and regulatory interest in the Kiliia Delta on account of its valuable wetland biodiversity changed the multispecies relations with cattle in the 1990s. In contrast to other contexts where ferals have been deemed "vermin," the cattle there were considered useful for maintaining valuable vegetation as long as their population was maintained at a certain level. Reducing their population and creating a system to manage it were controversial. Agrarian and conservation landscapes had to be disentangled which meant taking local people and their cattle out of the core zone. Nevertheless, the normative ground on which *feral* cattle can exist in the core zone is not rock solid. Because of this, since 1994, documents, documentation practices, and the administrators' ability to use them persuasively in encounters with inspectors and in court, have occupied an important place in maintaining an amphibious multispecies assemblage that includes feral cows. 665 670

### Feral cattle as heritage breed

In 2013 another event occurred in the life of the feral herd at the mouth of the Danube: the cattle were formally registered as a distinct breed called "Lypovan Red Island Cattle."<sup>108</sup> This was one of the outcomes of a Ministry of Agriculture-funded research project carried out in 2007 initiated by Father Heorhii (Huzieiev), an animal technician who is creating a database of aboriginal and heritage breeds in Ukraine. The scientific research and official designation make the cattle themselves into a new source of value for *agrobiodiversity*. This contrasts with their status as beings that sustain other rare and endangered *wild* species or as an immediate source of meat and income for wardens. While the research helped establish the breed's existence as a biological fact, the articles demonstrate – in line with key texts in science studies and the anthropology of horse and pig breeding – that such "facts" exist independently neither of historical and cultural narratives nor of processes of selective remembering inherent to them.<sup>109</sup> 675 680 685

The research was published in Ukrainian in the popular-scientific journal *Tvarynystvo Ukrainy (Animal Husbandry of Ukraine)*, and *Zbirnyk naukovykh prats' Vinnytskogo Natsional'nogo Agrarnogo Universitetu (The Journal of the Vynnytsia National Agrarian University)*. The latter article cites the UN Food and Agriculture Organization that the genetic diversity of animals used in commercial agriculture is under threat because of husbandry practices that led to the use of a few specific highly productive breeds.<sup>110</sup> The authors justify their own research in terms of conserving aboriginal and heritage breeds for genetic complexes lost in these modern breeds. However, in order to make use of them, the authors explain, the cattle's genes and livestock characteristics need to be identified and "certified."<sup>111</sup> 690 695

The study relocates the cattle's distinctiveness (and value) to certain genetic markers and clusters. Using these, the authors constructed a genealogical tree that shows the ways in which the herd is genetically related to other breeds such as the Ukrainian grey cattle, the red steppe cattle (a Ukrainian aboriginal breed), the Kuban-Black Sea grey, and the Red Astrakhan cattle.<sup>112</sup> This leads the authors to claim that "the formation of clusters and branches carries a clear expression of breed character."<sup>113</sup> While genealogical trees are a common feature in constituting and maintaining breeds, in contrast to studies of other equine and livestock breeds so far neither pedigree, performance records, breed society standards, nor skilled handling of 700

animals play any part in establishing the distinctiveness of the Lypovan Red Island Cow.<sup>114</sup> Rather, the cows' unmanaged reproduction for an extended period of time allowed natural selection to reassert itself and provide a basis for the authors' claim. 705

The articles' keywords – biodiversity, gene pool, satellite DNA, population, Danube Islands, Reserve, red cattle, Vylkove city, Old Believer Lypovans, habitat – show how the claim to breed distinctiveness is dependent on an origin story in which human, animal, and ecological history of the Kiliia Delta are deeply entangled. The name of the breed "Lypovan" proposed by the Reserve's director Voloshkevych – one of the authors – encapsulates both migration and localization analogous to the people from whom the name is borrowed and with whom the animals travelled. While the articles' historical narrative contrasts with the timeless husbandry-free wilderness envisioned by the Law on Protected Areas, its claim that cattle have been isolated for more than a century is selective and occludes the story this article tells. Indeed, Voloshkevych's colleague, Fedorenko, is skeptical that the cattle are a distinctive breed precisely because, in his view, the herd has only really been fully isolated – reproducing fully on its own – since 1997. 710 715

The articles do lend credence to my argument about cows-as-amphibians. They describe how the cows have responded physiologically and socially to life at the mouth of the Danube: 720

Island cattle are adapted to this locality's inundation; when there is an easterly wind the older animals lead the herd to higher ground and remain there until the inundation recedes. This can last a few weeks, even in the cold part of the year. The animals are resistant to gnats, blood sucking flies and parasites that live in water. They can withstand lack of or little food and then quickly gain weight and revive in the summer through eating the juicy grasses, reeds, rushes, and different kinds of sedges... they like the berries of sea buckthorns, and the branches of trees. In the winter, the Lypovan Island Red Cow eats dry remains of plants, shrubs, and branches. They are resistant to hot humid and cold humid climate. They have high resistance to illnesses such as tuberculosis... mastitis and other illnesses. Selection happens under the influence of natural factors, and the survival of this cattle is higher than those that people bring to the islands from former collective farms.<sup>115</sup> 725 730

This research has so far had no practical impact on the cattle. However, it does raise some questions: Could the heritage breed designation be mobilized as part of a multispecies assemblage to defend the herd if a zealous inspector or environmentalist calls for its complete extermination? Or, if livestock husbandry agendas become ascendant, will these cows be removed from the islands and control over their reproduction reasserted in order to "improve" them so other industrial commercial breeds can be enhanced?<sup>116</sup> 735

## Conclusion

The cows' unruly agency has been activated and limited by an amphibious multispecies assemblage of which they are part, and by the place this assemblage gathers at the mouth of the Danube. Cattle were drawn to the reed marshes, meadows, and dunes at the Kiliia mouth not only for food, but also because the dunes and swamps provided refuge from flooding, fire, and people. These same milieus attracted conservationists whose establishment of a protected area created a zone where cattle could live autonomous lives apart from humans – in other words, where they could escape human oversight and become feral bovine amphibians. 740 745

At first the cows' autonomy was maintained owing to laws prohibiting residents from entering the reserve, residents' casual property relation with cattle, and law-enforcement agencies' lack of oversight. However, the launch of the World Bank's biodiversity project led to a radical reduction of the herd's size so that its presence enhanced, rather than destroyed, vegetation that conservationists deemed valuable. This was complicated and controversial because it involved not only the cattle, but also local residents. While residents were allowed to remove their cattle, the remaining cattle became either "ownerless" or the property of the wardens. Fedorenko and Voloshkevych thus severed residents' vague informal property relations with the Reserve territory-as-commons. The feral cattle's elusiveness (including in matters of reproduction) and the muddy terrain confounded existing legal norms. This meant that residents could claim Reserve administrators had unlawfully expropriated their property and had illegally "hunted" cattle, and that administrators could successfully deflect these claims. 750

Legal contradictions in post-Soviet countries are often deliberately created to benefit a particular group of politicians and businessmen. However, the legal ambiguity in this case arises out of the way in which categories of wild and domestic have been embedded in Soviet and Ukrainian law – a predicament that is not unique to the Soviet and post-Soviet world – and the delta's amphibious terrain. While the feral herd emerged in part because of law enforcers' lack of oversight, cows' continued existence depends in part on a different set of legal relations. Administrators' general strategy of demonstrating and asserting the legality of their acts rather than evading the law has enhanced the role of documents and documentation practices in the amphibious assemblage that sustains the feral cattle. 755

What about these feral bovine amphibians themselves? Life in the open on the spits at the mouth of the Danube has its benefits and its drawbacks. Even though the cows are fairly well adapted to life in the marshes, nearly every year one of them gets stuck in the mud and dies. Jackals may kill a calf. A cow may die during birth. Yet the feral cows are able to live a pretty autonomous life – and seem to prefer it to living near humans. In contrast to their relatives in livestock farms, feral cattle are free from biopolitical control – even though periodically the sovereign shows up with a shotgun. Still, their existence is precarious: they exist, but not fully lawfully, dependent you might say, on an inter-species relation with a sovereign, to whom they must periodically sacrifice one of their own. 760

## Notes 780

1. Although Vylkove is a predominantly Russian-speaking town (and is known to its inhabitants as Vilkovo), this article transliterates names of towns and oblasts using their official Ukrainian spellings in accordance with this journal's policy. While place names in the delta in Figure 1 are transliterated into Ukrainian, two river branches appear as Vostochne and Bystre rather than Skhidne and Shvydke because the DBR uses the former in its official documents. Legal terms defined in Ukraine's Law on Protected Areas have been transliterated into Ukrainian. Words from the Reserve's documents have been transliterated into the language in which they were originally written and the same is true with quoted material from interviews. Personal names have been transliterated into Russian or Ukrainian based on a person's ethnicity though this did not always align with the language in which they spoke to me. 785 790

2. Signed in the Iranian city of Ramsar in 1971, the Convention on Wetlands, or Ramsar Convention, is an “intergovernmental treaty that provides the framework for the wise use of wetlands and their resources.” For more information see <https://www.ramsar.org/about-the-ramsar-convention>. 795
3. Costlow and Nelson, “Introduction: Integrating the Animal.”
4. See Allina-Pisano, *Post-Soviet Potemkin Village*, 199; Smith, *Works in Progress*; Kukharensko, “Animal Magic.”
5. Brown, *Biography of No Place*; Richardson, *Kaleidoscopic Odessa*.
6. Massey, *Space, Place and Gender*, 120. 800
7. Costlow and Nelson, “Introduction: Integrating the Animal,” 3; Schwartz, *Nature and National Identity*; Rogers, “Postsocialisms Unbound,” 1.
8. Barad, “Posthumanist Performativity,” 803; Haraway, *When Species Meet*; Latour, *Reassembling the Social*; Tsing, *Mushroom at the End*. For a consideration of these issues in relation to Russia and Eastern Europe see Gille, “From Nature as Proxy,” 8. 805
9. Whatmore, “Materialist Returns,” 601.
10. Philo and Wilbert, “Animal Spaces, Beastly Places,” 5.
11. Hobson, “Political Animals?” 7; Philo and Wilbert, “Animal Spaces, Beastly Places,” 16–17.
12. Hobson, “Political Animals?” 8–9.
13. Kirksey and Helmreich, “Emergence of Multispecies Ethnography,” 545. 810
14. Hodgetts and Lorimer, “Methodologies for Animals’ Geographies”; Swanson, “Methods for Multispecies Anthropology.”
15. This research is informed by 10 months of ethnographic research conducted in and around Vylkove between 2008 and 2016. However, this article draws primarily on interviews with Reserve administrators, scientists, and wardens, and on conversations with a cattle owner and tour operator conducted since 2012. I also use a file of the Reserve’s documents pertaining to cattle, its annual reports, and two scientific articles about the cattle. The Reserve administrators’ real names are used with permission. Elsewhere I use pseudonyms to protect individuals’ privacy. 815
16. See Lien, *Becoming Salmon* for a study of a difficult-to-access animal. In her case, salmon are visible in many other places in contrast to the rather limited manifestations of feral cattle. 820
17. Van Dooren, Kirksey, and Münster, “Multispecies Studies,” 3.
18. Tsing, *Mushroom at the End*, 22–3, 292–3. The term “assemblage” is used in various ways in the social sciences to signal that the social is composed of heterogeneous things and beings, not just humans. I follow Tsing, for whom assemblages are what gathers in a place rather than other usages that treat them as spatially extending power-laden networks that “conquer place.” 825
19. Kirksey, *Emergent Ecologies*, 1.
20. *Ibid.*, 2.
21. Cronon, “Trouble with Wilderness,” 72–3, 80–1. 830
22. Cassidy, “Introduction: Domestication Reconsidered,” 1.
23. Weiner, *Models of Nature*, 14.
24. *Ibid.*, 12, 14.
25. Olwig, “Reinventing Common Nature,” 396.
26. See chapter 6 of Schwartz, *Nature and National Identity* for the case of Latvia. 835
27. For a discussion of Dutch ecologists’ approach to expanding and restoring European wilderness through the re-introduction and de-domestication of large mammals, see chapter 6 of Schwartz, *Nature and National Identity*.
28. Cassidy, “Domestication Reconsidered,” 1.
29. Leach, “Human Domestication Reconsidered,” 349, 356. 840
30. Whatmore, *Hybrid Geographies*.
31. Lien, *Becoming Salmon*, 9.
32. *Ibid.*
33. *Ibid.*, 10.
34. *Ibid.*, 150. 845

35. Daniels and Bekoff, "Feralization," 80.
36. *Ibid.*, 87.
37. Notzke, "Exploration," 390.
38. Milton, "Ducks out of Water," 229; Peace, "Ponies out of Place?" 54.
39. *Ibid.* 850
40. Gressier, "Going Feral," 52.
41. *Ibid.*
42. *Ibid.*; Hillier, "Cat-alying Attunement," 7, 9.
43. Gagné and Rasmussen, "Introduction – An Amphibious Anthropology," 135; Krause, "Towards an Amphibious Anthropology," 402; Jensen, "Amphibious Worlds," 224. 855
44. Krause, "Towards an Amphibious Anthropology," 404–6.
45. Ogden, Hall, and Tanika, "Animals, Plants, People," 6.
46. See Krause, "Muskrat Ethnography"; Morita, "Multispecies Infrastructure"; Richardson, "Where the Water Sheds."
47. Richardson, "Objecting (to) Infrastructure," 81. 860
48. Weiner, *Little Corner of Freedom*, 2, 29.
49. Schwartz, *Nature and National Identity*, 117; Metzso, "Formation of Tunka National Park," 51.
50. *Ibid.*; Mincyte, "Everyday Environmentalism."
51. Humphrey, "Sovereignty," 419.
52. *Ibid.*, 421. 865
53. Burlyuk, "Introduction and Consolidation"; Ledeneva, *How Russia Really Works*.
54. Hull, "Documents and Bureaucracy," 251.
55. Mikhailov, *Gidrologiia Del'ty Dunaia*, 13, 59, 227.
56. Loczy, "Danube," 254.
57. Hanganu, *Vegetation*, 19. 870
58. Sheliah-Sosonko and Dubyna, *Gosudarstvennyi zapovednik "Dunaiskie Plavni"*, 48.
59. Dunais'kyi Biosfernyi Zapovidnyk, *Litopys Pryrody*, 38.
60. Sheliah-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*, 326.
61. Prigarin, "Fishing Traditions"; Prigarin, *Ruskskii starobriadtsy*, 61.
62. While the origin of "Lipovan" is disputed, the emerging consensus is that it is a modification of *pilpony*, or filippovites, one sub-group of Old Believers that settled in the Danube. 875
63. Prigarin, *Ruskskii starobriadtsy*, 63.
64. Siliantieva-Skorobogatova, *Vilkovo*, 18–19.
65. Prigarin, "Fishing Traditions."
66. Richardson, "(In)Accessible Land," 206–9. 880
67. Bassov, *Vilkovo*, 30.
68. Kovalenko et al., *Proekt orhanizatsii teritorii*, 363–4.
69. Richardson, "(In)Accessible Land," 205.
70. Kovalenko et al., *Proekt orhanizatsii teritorii*, 351.
71. See Allina-Pisano, *Post-Soviet Potemkin Village*. 885
72. Richardson, "(In)Accessible Land," 209.
73. Goriup and Goriup, "Evolution of Policies," 322; Van Assche and Iordachi, "Nature," xi.
74. Kovalenko et al., *Proekt orhanizatsii teritorii*, 22; Fedorenko, *Mezhdunarodnyi zapovednik*. See also Richardson, "On the Limits," 423.
75. Van Assche et al., "Delineating Locals," 8; World Bank, "Ukraine." 890
76. Takacs, *Idea of Biodiversity*; Hayden, *When Nature Goes Public*. See Schwartz, *Nature and National Identity* for its entry into Latvia.
77. Sheliah-Sosonko and Dubyna, *Gosudarstvennyi zapovednik "Dunaiskie Plavni"*; Sheliah-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*.
78. Fedorenko, *Mezhdunarodnyi zapovednik*. 895
79. Reserves are to describe this in their territorial organization document (*proekt orhanizatsii teritorii*), a document that the DBR has had since 2010 that is several hundred pages long.
80. UNESCO insists that biosphere reserves are NOT protected areas. In Ukrainian law, however, they are defined as a type of protected area (*zapovidnyk*) rather than a reserve

- (rezervat). The latter category does not exist in Ukrainian law. For ease of reading, I use “Danube Biosphere Reserve” even though this gloss obscures an important difference. 900
81. In January 2010, the Law on Protected Areas was amended to prohibit hunting in all zones of protected areas. Prior to the amendment it had been prohibited only in the protected areas’ core zones.
82. Prigarin, *Russkiiie staroobriadtsy*, 101; Richardson, “On the Limits,” 424. 905
83. Voloshkevych and Fedorenko, “Management,” 317.
84. Sheliakh-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*, 253.
85. This is based on his conversations with cattle owners and farm workers, and on reading the Reserve’s documents.
86. *Ibid.* 910
87. Excessive pasturing causes soils to turn saline. Introduced and salt-tolerant species take over, reducing edible plants for cattle. It also interrupts ecological succession. Sheliakh-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*, 333.
88. *Ibid.*, 253.
89. Interview with “Ivan,” 17 September 2016. 915
90. Interview with Vasyl' Fedorenko, 6 October 2016.
91. The climate is continental with short, relatively warm winters with average January temperatures ranging from –1.5 to +2.5C and hot summers with average July temperatures of 23–24C.
92. Voloshkevych and Fedorenko, “Management,” 316. 920
93. Vasyl' Fedorenko, telephone interview, 28 September 2017.
94. Haraway, *When Species Meet*, 78.
95. The Reserve administrators underwent multiple inspections and a criminal investigation in 2003–04 because they challenged a Ministry of Transport project to dredge a shipping channel through the core zone. Local residents allied with the Ministry claimed the Reserve had “illegally hunted cattle.” This led to several investigations of their actions including by the Bureau for the investigation of organized crime in 2003–04 prior to the case discussed in the opening vignette. They were not found to have been in violation of the law in this or any other situation. See Richardson, “On the Limits.” 925
96. Sheliakh-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*, 326, 334. 930
97. The Kiliia Delta was placed on a Soviet list of wetlands to be protected in 1975 but became a Ramsar Wetland officially in 1995.
98. This was based on a calculation of heads of cattle per hectare of territory classified according to vegetation type such as marsh, meadow, or dune. See Sheliakh-Sosonko, *Dunais'kyi Biosfernyi Zapovidnyk*, 334. 935
99. This is the number indicated in a letter to the District Prosecutor dated 12 January 1995. Ivan, the warden from Lviv Oblast, explained that in the late 1970s the heads of several state enterprises brought cattle to Kubanu Island. One resident who self-identified as poor described the people who had large herds of cattle as “rich.”
100. Vasyl' Fedorenko, telephone interview, 28 September 2017. 940
101. Prirodnyi zapovednik “Dunaiskie Plavni,” *Letopis' prirody*, 5.
102. Interview with Vasyl' Fedorenko, 6 October 2016.
103. Minutes from the meeting of the Scientific-Technical Coordinating Council, 22 December 1997.
104. The same letter describes how the Reserve made a special request to the Minister of Interior via the President of the Academy of Sciences to obtain permission to acquire a carbine rifle, which has a longer range than a shotgun, in order to be able to shoot them more quickly. Even so, sometimes a team of men would return empty-handed having spent a whole day looking for the cattle. 945
105. At the time, Ukraine was still using the Civil Code of the Ukrainian SSR. A new Civil Code came into effect on 1 January 2004. 950
106. Interview with Vasyl' Fedorenko, 6 October 2016.
107. Telephone interview with Vasyl' Fedorenko, 12 June 2017.

108. Huzieiev et al., "Lypovans'ka chervona ostrivna khudoba," 11.
109. Cassidy, "Arborescent Culture," 32–5; Latour, *We Have Never Been Modern*, 3; Haraway, *Modest Witness@*, 11; Weiss, "Making Pigs Local," 13. 955
110. Huzieiev et al., "Henesys," 69.
111. *Ibid.*, 68.
112. *Ibid.*, 72–4.
113. *Ibid.*, 72. 960
114. Cassidy, "Arborescent Culture," 36–7; Holloway et al., "Biopower, Genetics and Lifestock," 399; Weiss, "Making Pigs Local," 13–14.
115. Huzieiev et al., "Lypovans'ka chervona ostrivna khudoba," 12–13.
116. Holloway et al., "Biopower, Genetics and Lifestock," 394.

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