

# **PRESERVED TIGER, PROTECTED PANGOLIN, DISPOSABLE DHOLE: WILDLIFE AND WILDERNESS IN PRINCELY INDIA**

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On 28 June 2008 in the middle of the monsoon, an Indian Air Force helicopter delivered its cargo—a tranquilized adult male tiger dubbed ST-1 and a party of wildlife experts—into the heart of Sariska Tiger Reserve. Hailed by the Chief Wildlife Warden of Rajasthan as a scientifically planned “wild-to-wild relocation” unlike any before, ST-1’s involuntary flight over 200 km north from his established territory in Ranthambore National Park to a “key tiger habitat” compromised by poachers and notoriously devoid of tigers since 2004 was, in fact, well-precedented.<sup>1</sup> In what may have been the world’s first attempted reintroduction of the animal, the Maharawal of Dungarpur translocated tigers to his jungles from Gwalior State between 1928 and 1930.<sup>2</sup> The Maharaja of Gwalior, in turn, made history when he imported, acclimatized, and released African lions in his territories ten years before.<sup>3</sup> Their actions largely forgotten today, nineteenth- and early twentieth-century princes regularly trapped and moved tiger, leopard, bear, and wild boar between jungle beats, viewing arenas, private menageries, and zoological gardens. International and domestic pressure to “Save the Tiger,” the economics of tourism and ecosystem services, and popular constructions of national pride and natural heritage help account for the relocation of ST-1 and seven additional tigers to Sariska as of January 2013, with more introductions planned for the future.<sup>4</sup> But what led Indian princes to intervene even earlier in the wildlife demographics of their states, and how can their motives and actions inform our understandings of government associations with

wildlife and wilderness in South Asia, and the impact of those associations on the animals and habitats concerned?

It is well known that Indian rulers tailored game stocks and hunting grounds to their preferences because they were enthusiastic sportsmen and played host to (and hoped to elicit personal and political favors from) visiting British sportsmen.<sup>5</sup> Yet, there was more to princely sport than recreation, good hospitality, and diplomatic finesse. Hunting was an essential aspect of rulership that tempered the urbanity of palace-dwelling princes with masculinity-affirming adventures in the wilderness, built martial valor in contests against worthy foes, and that fortified royal constitutions with the potent meats and raw powers of the jungle.<sup>6</sup> The behavior and attributes of game animals and the qualities of their habitats were central to the cultivation and expression of princely identity and state character. Indeed, the historical persistence and political importance in South Asia of government interests in *janglī* (wild) animals and places suggests that Indian rulers never conceived of wildlife and wilderness areas as wholly independent of human beings and civil concerns.

British paramountcy severely limited Indian sovereignty in the late nineteenth and early twentieth centuries. Perhaps the most insidious aspect of paramountcy by the late 1800s was its ability to deceive princes into overestimating their actual position and powers. According to Ernst and Pati, paramountcy included “a hegemonic strategy that encouraged Indian rulers to conceive of themselves, against the odds of their actual political impotence, as potent heads of independent states.”<sup>7</sup> In contrast, Bhagavan, Cannadine, and others insist on the reality of princely sovereignty, both from the princes’ own perspectives and in British eyes.<sup>8</sup> Even as paramountcy was the rule and princely sovereignty was, in important ways, hollow—the reality of individual rulers being deposed is convincing proof of this—there

remained opportunities for what we might think of as limited sovereignty, or comparative power.<sup>9</sup> Even if princes had to avoid British attention by keeping their exercises small, or, otherwise, had to nod to Government for approval, the ruling chiefs of India wielded far more power than their subjects, and they enjoyed even greater sovereignty over their wildlife.

Nevertheless, princely hunting grounds and forest areas were not free from direct imperial interference: the Political Department cited Maharaja Jai Singh of Alwar's draconian controls over villagers living in and near his hunting grounds at Sariska when they removed him from power in 1933, and they similarly considered agrarian unrest directed in part against Maharana Fateh Singh of Mewar's hunting grounds when they deposed him in 1921.<sup>10</sup> On the whole, however, the British limited their interventions to formal and informal recommendations and advice on wildlife management, good sportsmanship, scientific forestry, and related topics.<sup>11</sup> Even when they did engage in dramatic interventions, the Political Department made no sustained effort to force princes to change their unique hierarchizations of game, evaluations of wildlife characteristics, or understanding of what features made the landscapes and forests of their states most enviable. Regardless of whether princely approaches to wildlife and forests were hybrid, exclusively Indian, or based on European and colonial knowledge gained through English educations and cosmopolitan friendships, however, wilderness management was a recognized corollary of independent, legitimate, and comprehensive governance.

The key to understanding princely engagements with state environments, flora, and fauna is in the identity and functions of what I term *princely wilderness*, or wilderness as located and conceptualized by the princes. I develop a working definition of princely wilderness by focusing on the efforts of north Indian rulers in the late nineteenth and early twentieth

centuries to understand and control the size, composition, and location of wildlife in territories including but not limited to the Southern Rajputana states of Mewar (which had many tigers and was rich in other game and tropical dry forest) and Dungarpur (which was comparatively poor in game and forest cover). I conclude that the princes' refusal to categorize wilderness entirely in opposition to civilization underwrote their staunch belief that government participation in local ecosystems and wildlife demographics was perfectly natural, necessary, and desirable. For wildlife and wilderness the outcomes were decidedly mixed, despite the contemporaneous, gradual shift in the early twentieth century from sport shooting to cameras as the primary (but not exclusive) medium of interaction with increasingly scarce megafauna in the colonies, a trend linked in the Indian context with the publication of F.W. Champion's wildlife photography in *With Camera in Tigerland* (1927) and *The Jungle in Sunlight and Shadow* (1933) and Jim Corbett's sympathetic take on the tiger as a "large-hearted gentleman" in *Man-Eaters of Kumaon* (1944).<sup>12</sup>

I employ wilderness as a convenient but necessarily loose gloss when speaking of a range of Hindi, Persian, and Rajasthani terms used in my sources for jungles, hunting grounds, and other more or less forested areas where game could be found. "Wilderness" is a loaded word in the wake of William Cronon's critique of it in American environmental contexts.<sup>13</sup> I adopt the term deliberately as a contact point with the ongoing investigations of other environmental historians into the cultural and geographical variations in human understandings of nature and culture. I do not, however, wish to invoke the binary divide that Cronon accused modern Americans of. Indian princes in the late colonial period *did* view wildlife and wilderness as different from human beings and areas of permanent human habitation. But the similarities they saw between themselves and wild animals, and the ways

they used forests, gardens, and palace courtyards as interlocking and even overlapping spaces, indicates a complex, shaded, and layered understanding of human-nature associations, not a simple conceptual binary. The reification “of ‘nature’ and ‘culture’ as discrete and incompatible domains,” which constitutes a major intellectual underpinning of the dominant modern concept of wilderness, has become a standard feature of national park management in India today. It has been identified as a major problem in modern conservation efforts in Sariska Tiger Reserve and beyond.<sup>14</sup> Despite the princes’ more integrated views, their wilderness was far from harmonious, too.

In brief, princely wilderness had flexible boundaries that were contingent on the presence of characteristic flora and fauna; it was intimately connected with good government and princely sovereignty; and, because it was as perilous as it was beneficent, only those who were exceptionally powerful and self-controlled, or half-wild themselves, could interact with it fruitfully. Its constituent parts ranged from the deep forest to the garden’s edge. It included the common Hindi *jāngal*, which Platts defined as “A jungle, wood, forest, thicket; forest land; waste land; land or country overgrown with long grass and weeds; a wild or uninhabited part.” Another haunt of wildlife was *jhārī*, a “copse, brake, thicket; wood, forest, [or] jungle.” More open canopies and grassy areas were found in *bir*, according to Macalister, “A jungle where there is plenty of grass,” and a wide range of habitats in *śikārgāh* (shikargah), back to Platts, a “Hunting-ground, chase; [or] preserve for game.”<sup>15</sup>

### **Wildlife and Princely Wilderness**

The Aravalli range of hills defined the landscapes of Mewar and Dungarpur with low, thinly soiled, rocky, scrub-covered peaks. Below the Aravallis, semi-arid plains hosted thorny, tropical dry forest. Both states benefited from sheltered dales where deeper soils had

accumulated, rendering these sites capable of supporting cultivation or less prickly dry deciduous forests. Yet, even the best agricultural zones suffered from seasonal shortages of water. To meet the needs of human residents and domestic livestock, Mewar and Dungarpur were dotted with man-made lakes, Persian wheels, step-wells, and other infrastructure erected and maintained over the past several hundred years by rulers, powerful merchants, wealthy donors, and commoners alike.<sup>16</sup> With the availability of water acting as a major limiting factor, Southern Rajputana's interlaced habitats also suited the various needs of carnivorous wildlife including tiger, dhole, and leopard, ungulates such as sambar, chital, nilgai, and wild boar, and many other species.

The most fundamental markers of princely wilderness were its animal and vegetable inhabitants. Wherever there were tiger or blackbuck and *thūhar* (*Euphorbia caducifolia*) or *babūl* (*Acacia nilotica*), there was princely wilderness.<sup>17</sup> Most wild animals were welcome in princely wilderness, but not all were accorded the same respect. An official "List of Principle Wild Animals Found in the Dungarpur State" selected seventeen species for special mention in 1935: tiger, leopard, caracal, sloth bear, ratel, hyena, dhole, wolf, wild boar, porcupine, pangolin, sambar, chital, nilgai, chousingha, blackbuck, and chinkara. An associated chart giving the "Particulars of Rare Animals which are Specially Protected" declared half of these creatures "exclusively preserved," including highly desirable game species like the tiger, sloth bear, sambar, chousingha or four-horned antelope, blackbuck, and chital, but also the caracal and the rarely pursued ratel and pangolin. Present in numbers sufficient to merit a notation of "common," leopard, boar, nilgai, and chinkara in addition to porcupine were preserved in state shikargahs and forest reserves only.

Unlike these animals, the “common” hyena and wolf received no special protections in Dungarpur State. Nevertheless, the reigning prince Maharawal Lakshman Singh (r. 1918-1989) apparently tolerated these creatures in his princely wilderness, doing nothing to prevent their proliferation, or to encourage their destruction. Even though the wild dog or dhole (*Cuon alpinis*) was, in contrast, “not common,” Lakshman Singh considered it unwelcome and unnecessary and offered a reward for its destruction.<sup>18</sup> His opinion tallied with those expressed by British sportsmen, natural historians, and trained zoologists, who harbored “no doubt that [wild dogs] are excessively destructive to game...cannot even claim utility as scavengers [unlike hyenas]...and soon clear game out of a district.”<sup>19</sup> An 1893 contribution to the *Journal of the Bombay Natural History Society* spoke of dhole as “red demons” and described them as producing “a kind of fiendish hysterical yapping.”<sup>20</sup> Another article refrained from commenting on the dhole’s alleged destructiveness or eerie ferocity, instead submitting that its much-maligned habit of “seiz[ing] its prey at the flank, rending the skin and causing the entrails to protrude...is the most natural thing to do when seizing a large animal in full flight.”<sup>21</sup> This is perhaps the kindest thing anyone had to say about the dhole until the 1970s when the first scientific studies based on extensive field observations were published.<sup>22</sup>

Dungarpur’s Bhils, comprising just under half of the state’s population in 1921, reportedly saw wild dogs differently than Lakshman Singh and the British did. The same class of colonial authors who encouraged their readers “to keep down ‘red dogs’ wherever found” occasionally reported their impressions of the dissenting opinions of India’s “wilder tribes,” allegedly expressed by one resident of a jungle-village when he mused “Why should I shoot the wild dog?...he is my god: he kills the tigers that take my cows!”<sup>23</sup> Whether or not Bhils, Gonds,

or any other hill communities actually thought or spoke of dhole as their god, they certainly recognized it as a pack hunter that could kill tigers.<sup>24</sup>

British sportsmen and natural historians doubted the credibility of “native stories” that claimed dhole were tiger-killers, but conceded that, in principle, a weak or elderly tiger could fall prey to a pack of wild dogs. The stance against dhole in Dungarpur likely would have resulted whether the maharawal relied on the same information as his Bhil subjects, or instead credited explanations for the dearth of tigers in dhole country that were popular among the British, namely that “where a pack has been hunting...the game naturally disappears...[and] tigers...naturally follow.”<sup>25</sup> It mattered little if dhole were killing Dungarpur’s tigers or causing them to abandon the state, either way wild dogs would spoil the maharawal’s dreams of reestablishing tigers in his realm. Following logic equivalent to that guiding a trained forester protecting commercially valuable seedlings from rival species, Lakshman Singh believed it was neither unnatural nor undesirable to uproot his animal pests. Nevertheless, just seven dhole were reported killed in Dungarpur between 1909 and 1928. It is hard to say if they proved too elusive to kill in greater numbers, the Rs 25 bounty on their heads failed to entice the accomplished hunters among the state’s populace (many of whom were Bhils), or the animals simply lived up to their official designation as “not common” (Table 1).<sup>26</sup>

By no means recognized as legitimate game species in Dungarpur or any other state, the wholly protected pangolin (*Manis crassicaudata*) and ratel (*Mellivora capensis*) and the partially protected porcupine (*Hystrix indica*) are intriguing entries in these documents. A nocturnal burrowing mammal weighing around 20 lbs. and covered in protective scales, the “rare” pangolin may have rated inclusion as a singular and uncommon curiosity. Indeed, the “Particulars of Rare Animals” chart proclaimed that “very little [is] known of the habits of this



interesting animal,” suggesting a desire for more information.<sup>27</sup> Also nocturnal and burrow-dwelling, the same reasoning may have held for the similarly “rare” ratel or honey-badger. For the pangolin, protection also may have been in order as the species is hunted for meat and scales, with reports that “natives believe in the aphrodisiac virtues of the flesh.”<sup>28</sup> The ratel’s meat was not consumed in South Asia, however, nor was the animal employed in medicinal applications.<sup>29</sup> The pangolin might have benefited from being a “specialist feeder on termites and ants” and no threat to the maharawal’s game, but captive specimens in the nineteenth and early twentieth centuries were offered milk, eggs, and raw meat, suggesting popular misconceptions regarding its diet.<sup>30</sup> The omnivorous ratel likewise posed no threat to large carnivores and ungulates, but may have needed protection from the maharawal’s subjects due to its habit of killing poultry and its alleged propensity towards “dig[ging] up dead bodies and devour[ing] them.”<sup>31</sup>

Unlike the pangolin and ratel, the porcupine was “common” in Dungarpur. Unless its protection within reserved forests was an arbitrary result of living in reserved forests, the rationale behind this herbivore’s privileged standing remains somewhat obscure. Porcupine could be used by hill communities for food, making it possible that Lakshman Singh protected it and other species not for their perceived value, but in order to encourage Bhil communities living near his shikargahs and reserved forests to rely on settled agriculture rather than forest produce. An understanding of the porcupine as harmless may have influenced the maharawal, too.<sup>32</sup>

## **Tigers and People in the Forest**

The tiger was the most prized resident of the maharawal’s princely wilderness. The tiger population of Dungarpur, however, fluctuated dramatically over the first three decades

of the twentieth century (Table 2). While “quite a number” had been shot by Dungarpur’s maharawals in the nineteenth century, only five lived in or frequented the state’s forests between 1914 and 1918.<sup>33</sup> Their numbers fell to two in 1919 and dropped to just one in 1921. According to state records, the species was locally extinct by the mid-1920s.<sup>34</sup> Determined to repair his broken wilderness, Lakshman Singh, with the assistance of the political agent D.M. Field, managed to obtain four tigers for his jungles from Gwalior State by 1930.<sup>35</sup>

To support these tigers, the maharawal needed a solid prey base. Dungarpur officials estimated in 1928 that the state boasted ungulate populations of over 800 nilgai, 150 four-horned antelope, 200 sambar, 50 chital, and 35 blackbuck.<sup>36</sup> Assuming all of these animals lived in Dungarpur’s 1,977,570 *bighās* (2,646 km<sup>2</sup>) of forested area, the ungulate density per 100 km<sup>2</sup> was at least 46.7.<sup>37</sup> Given the unfortunate omission of boar and chinkara from the officials’ data, this number is surely a gross underestimate. A prey density of 6,006 ungulates per 100 km<sup>2</sup> can support just over 12 tigers in semi-arid environments.<sup>38</sup> Clearly Dungarpur’s ungulates needed to increase before the maharawal’s stock could rise, and this seems to have happened. By 1935 the state’s tiger population had increased to sixteen without benefit of further imports.<sup>39</sup> That year, the state *dīwān* (diwan) reported the animals were “doing satisfactorily,” while the chital and blackbuck antelope the maharawal also had introduced as game and prey were, respectively, “rare” and “[doing] well.”<sup>40</sup> The tigers’ swift multiplication and the evident success with ungulates convinced Lakshman Singh of his project’s sound prospects, leaving him confident enough to allow the killing of seven or eight tigers between 1935 and 1937, and a total of 48 by 1950.<sup>41</sup>

The maharawal sanctioned the killing of these 48 tigers because they represented a “surplus” that otherwise would have “migrat[ed] to neighbouring areas.” After harvesting his

own surpluses, the prince was left with a “saturation level” population of around twenty to maintain inside Dungarpur’s borders.<sup>42</sup> Lakshman Singh’s vision of tiger conservation was territorially bounded: he showed no interest in exporting tigers to improve princely wilderness in other realms, even though he had benefited from the Maharaja of Gwalior’s willingness to do just that. Tigers were spatially and behaviorally restricted assets of the state and the maharawal’s private property. They lived and died at his pleasure. It is uncertain to what degree, if any, Lakshman Singh was motivated by broader issues of wildlife conservation, much less by any familiarity with the emerging science of ecology. Certainly he thought the dhole could be exterminated in his state without causing any negative repercussions. Perhaps he believed too that no problems would arise for tigers if they lived in Dungarpur and nowhere else.

The maharawal believed a dramatically reduced prey base, occasioned by Dungarpur’s jungle and hill-dwelling Bhil community, had helped create his state’s early twentieth century dearth of tigers. According to the diwan, “[b]efore the great Famine of 1900, tigers were very common in the State,” but during the famine “the starving Bhils destroyed every kind of deer” and “when the country became gameless...the tiger took to cattle and gradually disappeared.”<sup>43</sup> Up to 25% of Dungarpur’s Bhils and 50% of cattle died in the famine years of 1899 and 1900.<sup>44</sup> No estimates are available for the state’s losses in wildlife.

According to the diwan, the post-famine recovery of Dungarpur’s ungulates began under the tenure of Lakshman Singh’s father, Maharawal Bijay Singh, whose 1909 Forest Law “put an end to the destruction [by the Bhils] of the almost extinct Sambur, Cheetal and Neelgai.”<sup>45</sup> The time lag between the culmination of the great famine in 1900 and the onset of recovery in 1909, however, seems dubious, even considering the second round of famine

conditions that affected the state between 1901 and 1902. Rather than a natural, ongoing process reinforced through state policies, official interpretations characterized recovery as a political event with its origins wholly in 1909. Not only were natural processes elided in portraying the recovery thus, so too were the respective roles played by the regency council and political agents that governed Dungarpur during the long minorities of Bijay Singh (1898-1909) and Lakshman Singh (1918-1929): whatever nature did in Dungarpur it did in response to princely direction, and whatever positive changes accrued in the wilderness were due to princely policies and not to the negative inputs of British officials.

### **Political Ecology of Shooting**

Because hunting, caging, and otherwise imposing controls on wildlife were basic exercises of princely sovereignty, many Indian princes turned to the field with exceptional enthusiasm. What then was the impact of princely sport on wildlife populations? Between 1884 and 1921, Maharana Fateh Singh of Mewar (r. 1884-1921, d. 1930) and his nobles and guests killed at least 82 tiger, 220 leopard, 1,186 wild boar, 65 sambar, 21 chinkara, and 8 chital in Mewar.<sup>46</sup> The maharana personally accounted for about 60% of all tiger, 65% of all leopard, and 30% of all boar killed during this period, but for only 14% of sambar and 7% of chinkara and chital combined.<sup>47</sup> While these numbers reveal much about princely shooting preferences, one of the few facts they can establish regarding the population size of any listed species is its absolute minimum.<sup>48</sup> These numbers, however, must be far below reality.

Because the maharana shot many more animals towards the end of his life, thereby presumably accounting for a higher percentage of Mewar's actual game population, we may come closer to a baseline using data for the period between 1921 and Fateh Singh's death in 1930. Averaging numbers provided by Tanwar in his two published memoirs, the prince killed

339 tiger, 853 leopard, and 1,178 wild boar during the last decade of his life (Table 3).<sup>49</sup> If we assume the percentage of kills made by the maharana, nobles, and guests remained constant, then the grand totals shot by all parties in the state from 1921 through 1930 would be 565 tiger, 1,312 leopard, and 3,927 boar. Once again, these numbers can only establish absolute minima.

Supposing Fateh Singh and party killed game steadily rather than in spurts, at least 57 tiger, 131 leopard, and 393 boar were available per year between 1921 and 1930.<sup>50</sup> If all lived in Mewar's 11,883 km<sup>2</sup> of forested territory, we arrive at a minimum population density per year of about .5 tiger, 1 leopard, and 3.3 boar per 100 km<sup>2</sup>. If we assume instead that they lived only inside the very best forests, represented by the maharana's 186.5 km<sup>2</sup> of shooting reserves, the densities per 100 km<sup>2</sup> are over 30 tiger, 70 leopard, and 211 boar.<sup>51</sup> In comparison, a camera trap study conducted between 1995 and 2003 calculated the population density of tiger per 100 km<sup>2</sup> in Rajasthan's ecologically similar Ranthambore National Park at 11.46 animals, while an estimate derived from line transect sampling put the density of ungulate prey, including wild boar, at 6,006 per 100 km<sup>2</sup>.<sup>52</sup> Two other tropical dry forest reserves, Panna and Melghat, could support densities of around 8.3 tigers per 100 km<sup>2</sup> under ideal circumstances.<sup>53</sup> These numbers strongly suggest that Fateh Singh's personal shikargahs did not contain all of his tigers nor the entirety of his princely wilderness.

The political status and sovereign security of princes produced the most dramatic and lasting impacts on state forests and wildlife. When Fateh Singh lost his ruling powers in 1921 he turned with a vengeance to his hunting grounds. These sites were critical because the British justified Fateh Singh's removal in part on the basis of his alleged mental and physical deterioration, charges he could dispute by demonstrating continued prowess in the field.<sup>54</sup> Killing large numbers of tiger and boar was a fitting response as well to the additional charges

he faced of flagrant mismanagement (he was accused among other things of being more solicitous of state wildlife than agrarian interests) because his game and hunting grounds had borne the brunt of popular displeasure in the hilly districts around Udaipur. These 1921 attacks on shikargahs including Nahar Magra were part of the long running Bijolia movement, which “combined a theoretical discourse of nationalist and partly Gandhian inspiration with denunciation of...“feudal” privileges,” and which gained new intensity during the all-India Non-Cooperation movement.<sup>55</sup>

Before being deposed, Fateh Singh had killed an average of just one preferred game animal—a tiger, leopard, or boar—every twenty-five days. After 1921 he killed an average of two every three days. In other words, his decadal averages jumped an astonishing 26-fold for tiger, 22-fold for leopard, and over 12-fold for boar. Exponential increases in princely shooting tallies from the 1920s were not isolated to Mewar. Indeed, the interwar years and the Second World War appear to have marked a watershed on the sporting side of wildlife management in India, with Rajputana’s princes killing their highest numbers per decade between the 1920s and the early 1940s. Just three tigers died in Dungarpur State as the result of hunting or poaching between 1909 and 1929.<sup>56</sup> Between 1929 and 1950, the maharawals and their guests killed enough—on average two or three per year—to artificially hold the population at around twenty individuals.<sup>57</sup> In Bikaner, Maharaja Ganga Singh killed twice as many imperial sand grouse, duck, and demoiselle crane per decade after 1920 as he did before that year: 846 vs. 428 imperial sand grouse, 708 vs. 433 duck, and 118 vs. 49 demoiselle crane. As for tiger, he killed 37 on average per decade before 1920, and an average of 74 after 1920.<sup>58</sup>

These princes surely knew they were shooting at an increased rate after 1920, but how did they weigh the potential advantages and disadvantages of their actions? Was Fateh Singh,

for example, concerned that his enthusiasm might significantly reduce game populations in Mewari territory? Or was he, in fact, seeking that very end? By hunting as many tiger, leopard, and wild boar as he could, Fateh Singh was appealing the judgment against him and, whether intentionally or not, reducing his son and successor's opportunities to exercise sovereignty in this critical field by retaining for himself the reputation of hunter *par excellence* in the state. Indeed, a seeming desire among Fateh Singh's supporters to shortchange his successor even after the maharana's death is evident in the *Śikār kā Nakṣā* game book, which credited the 36 year old Bhupal Singh—who had been hunting since before his twelfth birthday—with just two boar and a pair of sambar by 1921.<sup>59</sup> According to the then unpublished *haqīqat bahīda* (haqiqat bahida) registers, however, Bhupal Singh had killed at least eight boar, four leopard, a tiger, and a bear by that date.<sup>60</sup>

Wildlife management and hunting grounds were central to the controversies surrounding Fateh Singh's rulership. Wild boar in particular were a point of conflict between the prince and his agrarian subjects, who suffered significant losses when herds invaded their fields and ate their crops. The maharana's Bhil subjects, too, had cause for complaint: like the state's cultivators, they were liable for *begār* or corvée labor, a regular ancillary of the prince's massive, organized beats for tiger and other game.<sup>61</sup> When Mewaris rose in protest against their ruler's unwillingness, among other things, to either keep wild ungulates in check near agricultural fields himself or to allow cultivators to take matters into their own hands, they expressed their grievances by trespassing and killing boar at royal shikargahs including Nahar Magra. By dramatically increasing the rate at which he hunted and killed boar, Fateh Singh may have been signaling a new stance on these issues. Ultimately, he hoped his powers would be reinstated if he proved his willingness—and ability—to redress major problems like the

proliferation of agricultural pests.<sup>62</sup> Yet, even as he began killing many more animals than before, his responses to agriculturalists' petitions and his own petitions to the viceroy insisted that there were actually far fewer boar in Mewar in the 1920s than there had been at any time during the nineteenth century, and particularly during the reigns of his predecessors. The prince's message seems to have been that, although he conceded no legitimate cause for complaint, he would reduce the state's population of wild boar.

If Fateh Singh set out to kill enough game to prove his worthiness as a prince and protector to his agrarian subjects and to exalt himself as Mewar's preeminent hunter, did he also put politics and personal ambition above wildlife conservation? Aside rather ironically from wild boar, it is not at all clear if Fateh Singh thought his state's wildlife were dwindling or in need of special protection to maintain their numbers.<sup>63</sup> What he very much *did* believe was threatened were his sporting rights and privileges, and the exclusivity and inviolability of his shooting preserves.<sup>64</sup> Besides this, there was no disputing that his sovereignty was threatened. Although specific standards varied from state to state, princely wilderness existed to a greater or lesser degree depending on the quality and quantity of a prince's wildlife and wilderness areas, which in turn relied on the condition and extent of a prince's sovereignty. If Fateh Singh successfully defended and preserved his personal status and hunting grounds, it did not matter how many animals he killed. Wildlife would regenerate naturally, nurtured by the pristine preserves and largely unworked forests that, in turn, had been maintained by Fateh Singh's conservative policies. In the meantime, liberal killing served his needs, harmed his rivals, and undermined some of the major arguments used to oust him in the first place.

Wildlife was part of princely wilderness, and thus part of a larger princely ecology that I have defined elsewhere as the "web of relationships between politics, society, economy, and



environment that princes perceived as existing in their states.”<sup>65</sup> The animals that Fateh Singh killed helped him access the raw powers of the forest that would shore up his sovereignty and prove his continuing legitimacy. Destroying jungle tracts, failing to limit his subjects’ use of forests for grazing, timber, and non-timber forest produce collection, or allowing too many trees to be “scientifically” harvested, on the other hand, materially damaged the potential inborn and acquired qualities of Mewari wildlife, thereby hurting the maharana’s own character and abilities as a sporting and ruling prince.

So long as Fateh Singh was secure on the *gaddī*, wildlife and princely wilderness seem to have flourished in Mewar. As soon as he was displaced his kills sharply increased, but anecdotal evidence suggests he simultaneously became more reluctant than ever to condone tree-felling. One day after 1921 the maharana was hunting west of Udaipur when, “there in the midst of the hills he came to a wide open space in which hundreds of jujube trees [*Ziziphus zizyphus*] had taken root, so that the entire jungle was purely jujubes,” only to find that every last tree had disappeared. The culprit was the new Forest Officer, Dwarakaprasad, who had harvested the trees to bring in quick profits for Mewar’s Forest Department. Fateh Singh, however, saw great loss in Dwarakaprasad’s actions. According to Tanwar, the “enraged” prince “didn’t like the kind of profit that leads to a dearth of food and water for the people.”<sup>66</sup> The plants also sheltered, fed, and retained water for the wildlife Fateh Singh was pursuing that day, which in turn were essential components of a healthy princely wilderness and a prosperous and well-ruled state.

Because Fateh Singh did not start cutting trees after 1921 like he began killing tiger and leopard—and because his most dramatic increase among ungulates targeted just one notoriously prolific prey species—it is possible that his activities did not permanently hinder

the ability of Mewar's big cat populations to effect swift recoveries. With their habitats and shared prey base evidently little changed from the decades before 1921, any animals left behind had the resources necessary to survive and, assuming all went well, to successfully breed and repopulate the region.<sup>67</sup> In the summer of 1931 the Maharawal of Dungarpur saw ten tigers while shooting in Mewar, even though he arrived not long after Fateh Singh's death and just a week after the Maharaja of Jodhpur and his brother had visited the very same spot to shoot fifteen tigers. When he returned the following year, he saw twenty tigers in the same shikargah.<sup>68</sup> Similarly, Lakshman Singh's own tigers had increased from four to sixteen after just seven years of strict preservation.<sup>69</sup> Today the pace seems slower in environmentally-stressed Sariska, where the seven remaining adults introduced since 2008 only produced their first batch of cubs by October 2012, although another litter may be on the way as of January 2013.<sup>70</sup>

### **Moving Wildlife and Wilderness**

Besides counting, killing, and relocating game, princes commonly shifted individual animals from their home territories to new contexts better suited to princely interests and ideals. Maharana Fateh Singh in particular trapped and moved game to facilitate wild animal fights in his Khas Odi, Nahar Magra, and Chaughan arenas (Figure 1). In order to stage fights for the visit of a viceroy, commander-in-chief, or fellow prince, Fateh Singh needed a reliable method of trapping and the infrastructure necessary to keep dangerous game. The vast majority of animals trapped were tiger, leopard, and wild boar. Of the twenty-eight fights recorded in the haqiqat bahida registers that Fateh Singh and his guests viewed between 1884 and 1912, just over 46% were between boar and tiger, and just under 18% were between boar and leopard. Of the remaining fights, 14% pitted a boar against a bear, horse, or another boar,

14% were between a leopard and a tiger, bear, or elephant, and just 7% involved no tiger, leopard, or boar at all.<sup>71</sup> The *haqiqat bahidas* show a total of fifteen fights involving tigers, but the *Śikār kā Nakśā* records only seven of these animals caught between 1884 and 1921. Individual tigers were used repeatedly and housed between fights in cages near Victoria Hall in Udaipur's Sajjan Niwas public garden. In 1901, these cages held at least one wild tigress and her three cubs, which were being tamed by Fateh Singh's staff.<sup>72</sup>

Indian kings seem to have kept caged tigers for a very long time, or at the very least had long been advised to do so. The twelfth century *Mānasollāsa* of King Someśvara III provided an extensive list of items that kings should keep in their forts, including “lion[s], [and] tigers kept in cages.”<sup>73</sup> The problem princes faced was how to get these animals in the first place. While placing a baited cage out in the jungle was enough to trap some tigers, the “clever ones” were not caught so easily. To obtain such animals the maharana's *śikārīs* (shikaris) relied on the alluring scent of an aromatic herb of the Valerian family, known as *bālchand*, *nāgarmothā*, *mogtiyā*, or Indian spikenard (*Nardostachys jatamansi*). Sprinkled along a trail leading up to and inside a cage, water boiled with crushed *bālchand* made tigers and leopards “go mad,” allegedly due to the scent matching that of a female in heat.<sup>74</sup> The preparation was so effective that Tanwar wryly cautioned any who used the herb to “wash their hands afterwards.”<sup>75</sup> This trick was known in Jaipur and Gwalior as well.<sup>76</sup>

Different methods were used to catch wild boar. The usual tactic in Mewar was to construct a grain trough in the jungle and to habituate local animals to daily feedings, thereby allowing the site to be used repeatedly for shooting and trapping. Tanwar recommended laying out a trail of corn and hog plum (*Spondias s.*) syrup to attract boar to newly established sites, where they would find a steady supply of “corn, pieces of *sāṇṭhā*, [and] dried corn and

jaggery *laḍḍus*” in the trough. As a finishing touch, “a little opium...mixed into the *laḍḍus*” ensured success as boar quickly became addicted and would keep coming back for more, particularly if the dosage was steadily increased.<sup>77</sup>

When it came to trapping pig for animal fights or later release after the manner of fox hunting, Fateh Singh’s shikaris aimed to catch the biggest boar possible. The best way to separate a really big pig out from its peers was to “dig a hole one foot deep and one-and-a-half feet wide, place some opium-laced *laḍḍus* inside, and put a heavy stone on top.”<sup>78</sup> All shikaris had to do then was set a trap. Snares and ropes did not last long against tooth, tusk, or claw, however, and pit traps could injure animals, thereby reducing their value. Wooden cages were an option that villagers near Kumbhalgarh used to trap and hold a live leopard in 1921 or 1922. When a state huntsman arrived on the scene, he found the animal “had chewed up half the cage with its teeth and was trying to get out.”<sup>79</sup> It is not surprising, therefore, that Fateh Singh’s men preferred metal cages, and especially ones that closed automatically.

The earliest depiction of a shikari using a cage from Fateh Singh’s reign may be the c. 1888 image found among the wall paintings inside Nar Odi, a small shooting tower just south of Udaipur (Figure 2). This scene shows a tiger in front of a large cage with vertical bars, a solid top, and a solid, sliding door in front held open with a rope by a shikari hiding in a tree. The tiger’s crouched position seems to suggest that the animal is poised to enter the cage, perhaps drawn in by the scent of *bālchand*.

Dating to 1890, the next Mewari cage in the visual record was meant for catching and transporting wild boar (Figure 1). This cage shared several elements with the 1888 one, including vertical bars, a solid top, and a solid, sliding door. Unlike the 1888 model, it was significantly smaller, seems to have been made of metal and wood, and featured horizontally

reinforced sides and wheels. Photographs taken near Khas Odi around 1903 show a similar cage, but *sans* wheels and with doors on both ends. In one photograph the 1903 cage sits in the midst of a small herd of boar with its doors invitingly open (Figure 3), allowing animals to familiarize themselves with this foreign object at their leisure.<sup>80</sup> Likewise, two undated sequential stereographs show a pair of shikaris with feed bags perched on top of the same cage, surrounded by a herd of perhaps 150 animals.<sup>81</sup> In one frame, a wild boar investigates the interior of the cage while the shikaris huddle together on the roof.

Udaipur's City Palace Museum displays a massive double-doored metal cage for catching and holding tiger, and a much smaller single-doored wood and metal cage for leopard, or perhaps boar. The doors on the tiger cage operate via a system of pulleys and thin ropes or metal cables that can be wound up (to open the doors) or let out (to close them) with a pair of hand-crank winches.<sup>82</sup> Judging by its sophistication, this cage probably post-dates the 1888, 1890, and 1903 examples. Unlike the earliest tiger cage in evidence, this model could have been left unattended in the forest, rigged to trap the first animal reckless enough to take the bait. The odds of catching the "clever ones" must have improved when shikaris could leave the scene, taking with them all chance of scaring their quarry off by being seen, scented, or heard too close to the trap. As for the leopard cage, its door opens using a simple top-mounted lever, similar to the mechanism depicted on the 1890 cage.

Lakshman Singh and Fateh Singh were not the only princes to shift dangerous game from place to place. The Maharaja of Datia had few wild tigers, if any, but he kept caged animals. Whenever his tigresses went into heat, he moved their cages to Datia's border to tempt males from tiger-rich Gwalior.<sup>83</sup> When a beat in one "small and remote Native State" in Central India failed to produce any big game when Andrew Fraser of the Indian Civil Service

came visiting late in the nineteenth century, state shikaris caught a leopard overnight and presented it the next morning “in a cage-like trap mounted on wheels.”<sup>84</sup> And, of course, the Maharaja of Gwalior imported lions from Africa and exported tigers to Dungarpur. The scale of operations in Gwalior necessitated not only metal cages for lions, but a “great enclosure...[that] consisted of a large area divided internally and surrounded by a stone wall twenty feet high broken by strong gates.”<sup>85</sup> Small game including guinea fowl, partridge, and quail were also caged, transported, and released on demand by state shikaris in the 1920s.<sup>86</sup>

Not every captive tiger was destined for the hunt. Arthur Cunningham Lothian once received “two almost full-grown tigers on the veranda, which came gamboling up...like St. Bernard dogs.”<sup>87</sup> They were gifts from the Maharao Raja of Bundi to the Maharaja of Jaipur. In 1906, the Maharao of Kotah likewise sent a lion cub to Mewar.<sup>88</sup> Such animals were caught young and hand-raised. When man-eating tigresses were shot in Jaipur, state shikari Kesri Singh collected their cubs in gunny sacks.<sup>89</sup> Singh obtained Hero, Happy, and Grumpy in this way, and found them “very good pet[s]” throughout their youth, with Happy in particular bonding with the family dog and enjoying drives around Jaipur in Singh’s automobile.<sup>90</sup> Once these animals matured, their freedoms were curtailed. Singh sold Hero to the Rawal of Nawalgarh and ultimately transferred Happy to the Jaipur zoo.<sup>91</sup> Grumpy died when she was pitted against her sibling Happy in a fight sponsored by the maharaja.<sup>92</sup>

If tiger, leopard, and wild boar, not to mention quail, partridge, and jungle fowl, were all fundamental aspects of princely wilderness and could all be moved to suit a prince’s preferences, then did princely wilderness itself move with them? Princely wilderness was at its best in exclusive shooting preserves where the highest concentrations of game lived and the most impressive trophies were found. Yet, when Fateh Singh moved a tiger, leopard, or other

animal into one of his arenas, Udaipur's city palace, or the Sajjan Niwas garden zoo, each creature carried its unique contribution to the princely wilderness of the royal shikargah into a new context. While tigers lived in many princely zoos, including those in Mewar, Bikaner, Jaipur, and Nawalgarh, other species were well-represented, too.<sup>93</sup> Several undated photographs document a collar-wearing swamp deer in the city palace compound and a caged lion in Udaipur. The presence of a zebra in Mewar's capital along with the rare white sambar fawn captured during Bhupal Singh's reign suggest, like the protected pangolin in Dungarpur State, that the exotic and the novel were as desirable as the wild.<sup>94</sup>

The tigers in Fateh Singh's Sajjan Niwas garden reminded the public of the potent princely wilderness they represented and helped constitute. Tanwar described the interaction of zoo visitors with Udaipur's tigers, writing that "observers go near its cage and tease [the tiger] because they know this animal is enclosed and despite the provocation, it will not be able to do anything. When they are teasing it and the animal becomes enraged, roars, and charges at them, it must stop because it crashes into the cage. Nevertheless, the tormenters back away five steps out of fear."<sup>95</sup> The power of the caged, city-dwelling tiger was not erased, only contained. Likewise, princes like Fateh Singh suggested that they restrained their own powerful nature, taming themselves for the benefit of their subjects and to meet the routine demands of palace life, urban society, and day-to-day administration under British paramountcy.<sup>96</sup>

## **Wilderness and Civilization**

Princely wilderness shaded into landscapes adapted to human habitation in fallow and planted fields, urban gardens, parks, and orchards, along jungle roads, and in forest margins and blanks where people, domestic, and wild animals searched for forest produce, fodder, and

food. Indian princes were deeply invested in wildlife management in thick jungles, hillside thorn forests, and uncultivated or sporadically cultivated zones, *and* in urban, village, and permanent agricultural settings. Wildlife could and did move between these landscapes independently, and not just when transported in cages. Wild ungulates came out of the jungle to feed in agricultural fields, wild boar visited villages to mate with domestic pig, leopards tore through thatch roofs to kill goats, and tigers walked down country lanes.<sup>97</sup> Likewise, domestic cattle ranged into the forest.

The mobility of wild as well as domestic animals and the possibility of discovering domestic mango (*Magnifera indica*) and other familiar plants in the deep forest as well as the garden, and of finding thorny *thūhar* and mahua (*Madhuca longifolia*) on the edge of the city and not just in the Aravallis, helps clarify how princely wilderness overlapped and interacted with civilization. Princely wilderness was not part of a simple binary; it achieved higher concentrations in some areas than in others. It was present in the royal palace and the public garden, but peaked most obviously in royal shikargahs and wherever else its primary components congregated. Its contours varied with the movement and proliferation of wildlife, the influence of drought and famine, the establishment and desertion of villages, and in response to the legislative decrees of ruling princes and the ongoing struggles between princes, nobles, and subalterns over their individual and collective rights and privileges in the forest and beyond. As such, princely wilderness was neither ahistorical nor unchanging, but historically contingent and deeply responsive to political, social, economic, and environmental changes.

Numerous scholars have argued that, over the past two millennia or more, Western societies have conceived of wilderness as a natural space separate from culture that is either



complementary to or in conflict with civilization.<sup>98</sup> In South Asia, princely wilderness was never entirely distinct from culture, due in large part to the princes' routine and extraordinary engagements with it. Princely wilderness was so intertwined with courtly culture and civilization that some might balk at calling it wilderness at all. Yet, in princely India, it was no contradiction in terms for people and wildlife, culture and nature, civilization and wilderness to exist within overlapping categories and to move within overlapping spheres.

Princely wilderness was not unnatural, even when visibly managed and maintained by princes and their shikaris. Unsettled areas had many possible natural states, each appropriate to reigning conditions in the socio-political, economic, and moral realms of kings and, to a lesser degree, their subjects. In less desirable natural states, extreme scarcity or overabundance, unmitigated danger, and rampant disorder in fields and forests alike signaled the negligence or inadequacy of a less-than-ideal king. In more desirable natural states, princely wilderness was sufficiently tame that powerful individuals could navigate its dangers and collect its fruits for the good of the kingdom at large, which included the forest and its wildlife. Ideal princely wilderness bore unambiguous evidence of human visitations and engagements.

Like more settled regions, forests required intensive management to ensure the production and maintenance of the most desirable populations of flora and fauna. Fields needed tilling and cattle grazing; forests benefited from select plantings and infrastructural additions; wildlife thrived on extra food and water. One of the most common interventions Indian princes made in their forests was to ensure the year-round availability of water. Wherever shikargahs lacked perennial resources, princes maintained artificial water holes. The Dungarpur Forest Department had "a number of artificial ponds in dry areas" in order to

“prevent animals from leaving their home altogether during Summer and straying out...into the adjoining States.”<sup>99</sup> Despite the proximity of the Pichola lake, Maharana Fateh Singh kept a masonry water trough for his boar (and the occasional stray bull) near Khas Odi in the early twentieth century (Figure 4).<sup>100</sup>

In addition to grain troughs for feeding boar and summer watering facilities for wildlife, shikargahs were dotted with shooting boxes, ammunition and gunpowder storehouses, campsites, and access roads. Even if a prince failed to visit a particular shikargah, these elements persisted and facilitated his eventual return. Shooting towers received regular visits from Shikar or Forest Department employees who cleaned out accumulated dust and debris, checked locks, and reported damage.<sup>101</sup> State shikaris and forest guards also patrolled reserved forests and shikargahs to stop illegal grazing, lopping, and cutting; establish and maintain fire lines; keep tabs on big game; eliminate poaching; and destroy animals the state had identified as sufficiently dangerous or destructive.

As much as physical infrastructure marked princely wilderness, so too did state laws and *jangalāt* or Forest Department policies shape its connections with local communities. As in British India, the ways in which princely forests were classified and the rules in effect changed over time.<sup>102</sup> Between 1935 and 1940, Dungarpur’s Village Forests existed to “meet the requirements of the agriculturalists” for firewood, fodder, timber for plows and other implements, and housing materials.<sup>103</sup> In these forests, grazing and forest produce collection was community rather than state regulated. Second Class Reserve Forests “provid[ed] timber for the needs of the people,” supplementing Village Forests with larger timbers and serving the firewood, charcoal, and construction needs of Dungarpur’s city-dwellers. “scientifically” managed for state profit, Second Class forests were subject to clear-felling, thinning, mining

operations, and the plantation of *babūl* seedlings and nursery-raised teak (*Tectona grandis*), Indian rosewood (*Dalbergia sissoo*), and Indian cedar (*Toona ciliata*) saplings.<sup>104</sup> First Class Reserve Forests were closed to the people for the purposes of cutting, although grazing was generally allowed. While these forests included the prince's game preserves and other "dense patches of...considerable age," they were not left unworked by the Forest Department.<sup>105</sup> In First and Second Class forests alike, "thinning was carried out by eliminating useless trees. Trees which had suffered from fire, disease or frost were systematically felled. Promising plants were established and climbers and parasites were destroyed."<sup>106</sup> In short, "every effort was made to encourage and obtain straight shoots," a prerequisite for the commercial production and harvest of high quality timbers.<sup>107</sup>

Administered separately under the Revenue Department, government efforts to improve Village Forests between 1910 and 1940 focused on the planting of at least 100,000 mango and mahua saplings.<sup>108</sup> Altogether, some 50,000 remained viable as of 1944, meaning that just under 623 new trees graced every square kilometer of the state's Village Forests.<sup>109</sup> These trees changed not just the composition of state *jangal* but also, as trees matured and bore fruit, the ways people, cattle, and wildlife used their forests. If, for example, edible mahua flowers littered the ground, they might attract wild boar. If new trees closed the distance between village forests and fields, boar might start raiding crops. With more prey and increased cover, predators that can live in close proximity to human settlements, like leopard, might be drawn to the area. If the prince discouraged or prevented his subjects from killing wild boar or large carnivores, severely afflicted cultivators might take the drastic step of abandoning their village and fields. Deserted sites would cease to concern the Revenue

Department and might be taken over by the Forest Department, even becoming subject to reclassification.

Evidence that some landscapes in Dungarpur may have grown more *jānglī* between 1935 and 1942 is found in forest classification records. Altogether, the maharawal's First Class game preserves grew by 2,100 bighas (2.8 km<sup>2</sup>), Second Class Forests by 122,000 bighas (163 km<sup>2</sup>), and Village Forests by 75,000 bighas (100.3 km<sup>2</sup>).<sup>110</sup> The way Village Forests grew suggests the expansion of Forest Department control at the expense of the Revenue Department. In 1940, Village Forests were renamed (Unclassified) Village Forests and 40,000 bighas (53.5 km<sup>2</sup>) were newly designated Protected Village Forests.<sup>111</sup> The Forest Department brought another 20,000 bighas (26.8 km<sup>2</sup>) under this heading in 1942. None of these newly declared areas appear to have been classed as any kind of forest prior to these notifications. Had they been declared (Unclassified) Village Forests, relatively little might have changed for any people, cattle, or wildlife that relied on them. As Protected Village Forests, however, they were "placed under the supervision of the Forest Department with a view to preventing illicit and unscientific cutting," resulting in significant new restrictions.<sup>112</sup> The Forest Department in 1942 also took over the (Unclassified) Village Forests of Pouhari, Jhontri, and Bhinda, without, however, any changes in nomenclature. Finally, they demarcated two new grass reserves, declaring them First Class Forests.

It is perhaps no coincidence that the Forest Department was extending its holdings during the very years when Dungarpur's tigers were breeding successfully enough to produce 48 "surplus" animals.<sup>113</sup> Indeed, just as the maharawal's shikargahs were included in the state's First Class Reserve Forests, the Forest Department itself housed the prince's *śikārkhāna*, or hunting department. Preserving the state's wildlife was, however, hardly the only reason for

the expansion in Forest Department holdings. The bulk of the newly declared forests were Second Class forests, not explicitly for shikar and worked for profit by the Forest Department and its contractors.

By the early 1940s, Dungarpur's forests were jointly administered with mining under the Forest and Mines Department. Mines and quarries were "worked departmentally," licensed, or leased out to local and outside contractors that extracted metals and minerals including asbestos, apatite, agate, bauxite, calcite, copper, dolomite, feldspar, garnet, graphite, iron ore, lime, manganese, marble, quartz, soapstone, and talc.<sup>114</sup> Judging by the state's revenues, intensive extraction from forest reserves began in the 1930s and rapidly accelerated through the 1940s. The state levied Rs 2,158 in quarry taxes in 1934 and Rs 2,861 in 1939. Mining revenues rose dramatically over the course of the Second World War, with annual returns between Rs 6,616 and Rs 7,883 from 1940 through 1944. If Dungarpur's mining and forestry operations followed trends seen in the Mewas estates, then the pace and scope of extractions would have surged once again when many "rulers got alarmed and sold their entire forest[s] to the timber merchants...for lump sum payment[s]" in the late 1940s, with the goal of cashing in their assets and protecting as much wealth as possible prior to their impending losses in property and land revenues with the integration of the states into the newly formed Republic of India.<sup>115</sup>

Recent controversies in the Sariska Tiger Reserve show that mining operations and wildlife often do not coexist with ease in Rajasthan's tropical dry forests.<sup>116</sup> Likewise, the impacts of widespread forest denotification—alongside the more difficult to quantify trends towards deforestation and degradation—have taken their toll.<sup>117</sup> As of 2011, the Dungarpur District of Rajasthan State contained 294 km<sup>2</sup> of reserved, protected, and unclassified forests,

including scrub, moderately dense, and open forest areas, while the Udaipur, Rajsamand, Chittorgarh, and Bhilwara Districts had 6,357 km<sup>2</sup> under the same headings.<sup>118</sup> In 1944, the Forest and Revenue departments of Dungarpur State controlled 2,077,176 bighas (2,779 km<sup>2</sup>) of forest reserves, or nearly nine and a half times more territory than Rajasthan's Forest Department administers today in the Dungarpur District.<sup>119</sup> Denotification has been far less extensive in the former Mewar State, however, with today's totals just 118 km<sup>2</sup> below the estimated holdings of the Forest and Revenue Departments for 1942.<sup>120</sup>

These losses make it less surprising that the official 2010 tiger status report records no detections and less than .01% probability of any wild tigers living inside or outside protected areas in the former Dungarpur and Mewar states.<sup>121</sup> Nevertheless, as of Rajasthan's 2010 wildlife census, approximately 200 leopard, 250 bear, 600 chinkara, 65 chital, 185 four-horned antelope, 325 sambar, 1,145 wild boar, and well over 7,000 nilgai could still be found in the combined territories of these former princely states. These numbers represent about a third of Rajasthan's remaining population of leopard and bear and nearly 60% of its four-horned antelope. But these areas are poor in the larger ungulate prey species that tigers specialize in.<sup>122</sup> With around 10% of wild boar, and less than 2% of sambar and chital, these districts stand in marked contrast to the Sariska and Ranthambore tiger reserves, which contain 47% of the state's wild boar, 67% of its sambar, and 84% of its chital.<sup>123</sup>

### **Conclusion: Princely Conservationism?**

When Lakshman Singh of Dungarpur and Bhupal Singh of Mewar began inviting mining contractors alongside their forest officers into state reserves in the 1930s and 1940s, did they suspect their profits might come at the expense of wildlife, and thus of princely wilderness? Neither the maharawal nor the maharana thought of princely wilderness as something

entirely or even ideally devoid of people or human enterprise. In Dungarpur, the Forest Department's commercially-minded efforts to "encourage and obtain straight shoots" extended into the First Class Reserves, which included the state's prime wildlife habitats. Yet, Lakshman Singh firmly believed in the 1930s that he could expand his forests, "improve" their composition with saleable species, work them for profit following scientific principles, and increase his tiger and ungulate populations all at the same time.<sup>124</sup> He did not know the vital importance of biodiversity, a concept first developed by biologists beginning in the 1960s.<sup>125</sup> In the opinion of the princes, it was the illicit "destruction" of ungulates and the "irresponsible" cutting of trees by hill communities like the Bhils that hurt wildlife and drove local tiger populations to extinction, not a state's carefully considered practices.<sup>126</sup>

To the extent that Lakshman Singh and Bhupal Singh believed by the late 1940s that their days as sovereign princes were numbered, it made sense to liquidate some portion of their states' forest and mineral wealth to secure themselves and their descendants against an uncertain future. If they consciously abandoned scientific management for quick, short-term profits, they would have expected wildlife populations to plummet in step with forest reductions. Like Maharana Fateh Singh after 1921, these rulers were experiencing (or beginning to anticipate) the reduction or outright cessation of their sovereign powers, rights, and privileges.<sup>127</sup> Once they began to accept that their sovereignty was coming to an end—and with it the realities of princely ecology—they had little need and increasingly limited means or authority to maintain large numbers of wildlife. Nevertheless, it appears that some rulers held off until the 1950s or even later, ultimately being spurred into action not by the departure of the British, but in response to continuing post-colonial erosions of their rights and privileges, notably the integration into the provinces of all temporary groupings of princely states in 1956

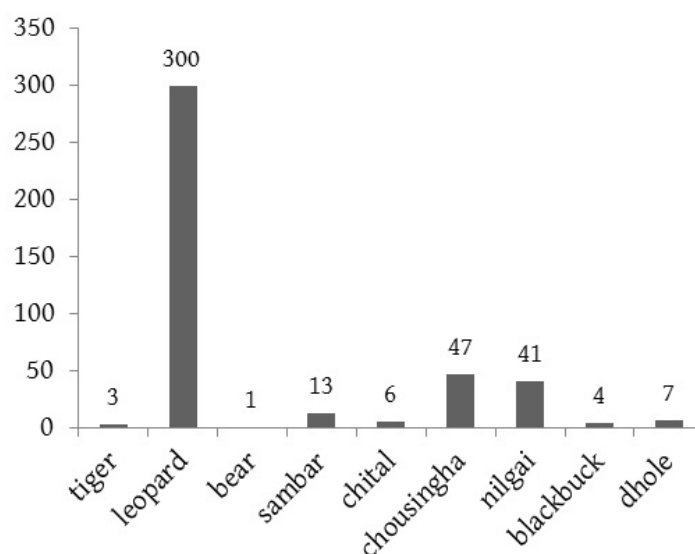
and the abolishment by constitutional amendment of privy purses, ruling titles, and all remaining special privileges in 1971.<sup>128</sup>

Even the closest connections between people and wildlife in India, as mediated through princely conceptions of wilderness, did not necessarily produce anything that modern critics would consider desirable environmental outcomes. Lakshman Singh may have increased tigers and tree cover in Dungarpur on a temporary basis, but he equally undermined biodiversity by seeking to exterminate the dhole and by following the environmentally problematic precepts of scientific forestry. And, rather than allowing “surplus” tigers to migrate out and potentially expand the species’ range, he hunted and killed them in his state. Fateh Singh may have set out to protect the forests of Mewar against all harm, but he and his nobles slaughtered wildlife by the thousands for personal gain and to score political points, without understanding the shared ecology of these animals and their habitats. There is no clear-cut binary of indigenous harmony with and colonial or western abuse of nature here, despite the princes’ unique conceptions of wilderness. Royal investment was a decidedly mixed blessing for Indian wildlife and wilderness areas.

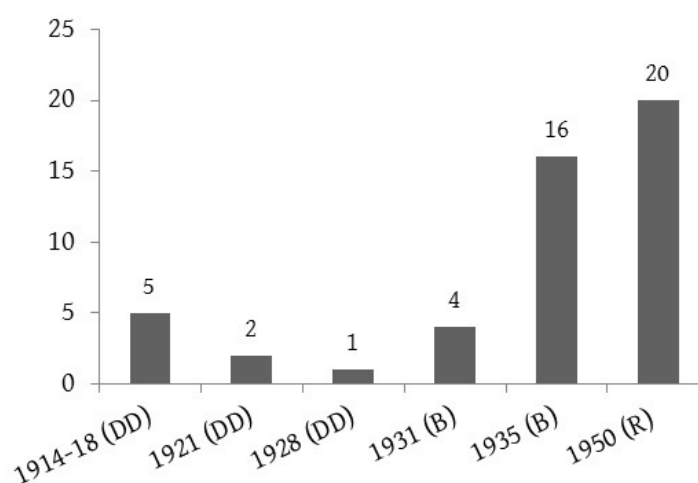
Because princes strictly limited hunting to themselves and select others, Divyabhanusinh has concluded that “whatever their motivations for conservation, their actions resulted in the protection of wild animals and their habitats.”<sup>129</sup> Rangarajan has countered that princely exclusivity “did not mean that theirs was an ethic of nature protection.”<sup>130</sup> This paper shows that Indian princes protected nature inasmuch as they identified their own interests and powers with its health and integrity. As it became increasingly clear that their powers would lapse, they exploited the natural wealth of their states to ease their transition from revenue-gathering potentates to unemployed ex-princes.



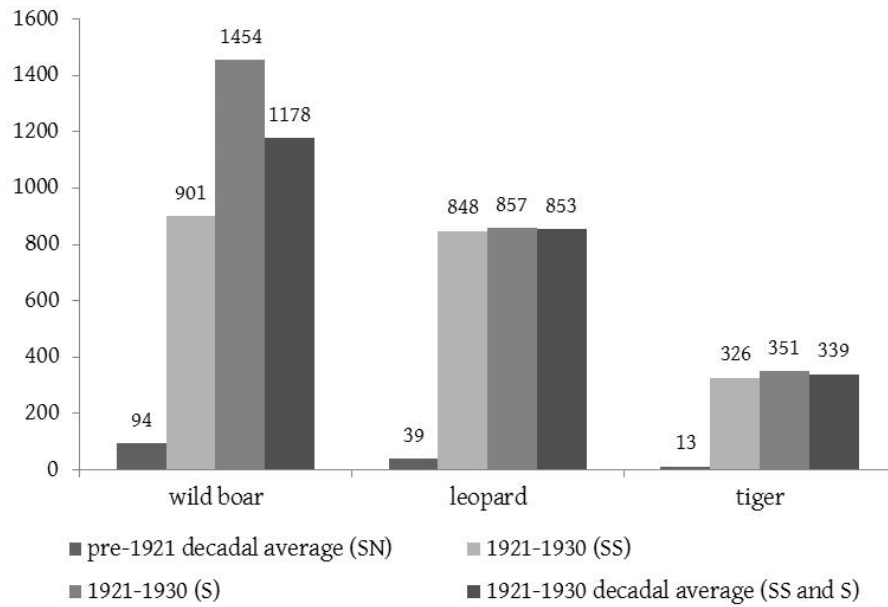
Furthermore, princely conservation was not nearly as successful as it could have been. Princes acted on flawed ideas of wildlife ecology and in accordance with unscientific biases for and against certain species. They failed to think of the environment as a whole and instead cared primarily, even exclusively, for local enclaves. Finally, they did little to support coexistence between people and wildlife and in some cases even created the conditions for future conflicts.<sup>131</sup>



**TABLE 1.** Game shot in Dungarpur State, 1909-1929.  
Source: Diwan of Dungarpur, to SRSA, November 15, 1928



**TABLE 2.** Reported tiger population of Dungarpur State, 1914-1950.  
Sources: Diwan of Dungarpur, to SRSA, November 15, 1928 (DD); G. L. Betham, to Secretary to the AGGR, September 27, 1937 (B); Ranjitsinh, *Beyond the Tiger* (R)



**TABLE 3.** Big game tallies of Maharana Fateh Singh in Mewar, pre- and post-1921.  
Sources: *Śikār kā Nakṣā* (SN), Tanwar, *Samsmaraṇ* (S), and Tanwar, *Śikārī aur Śikār* (SS)



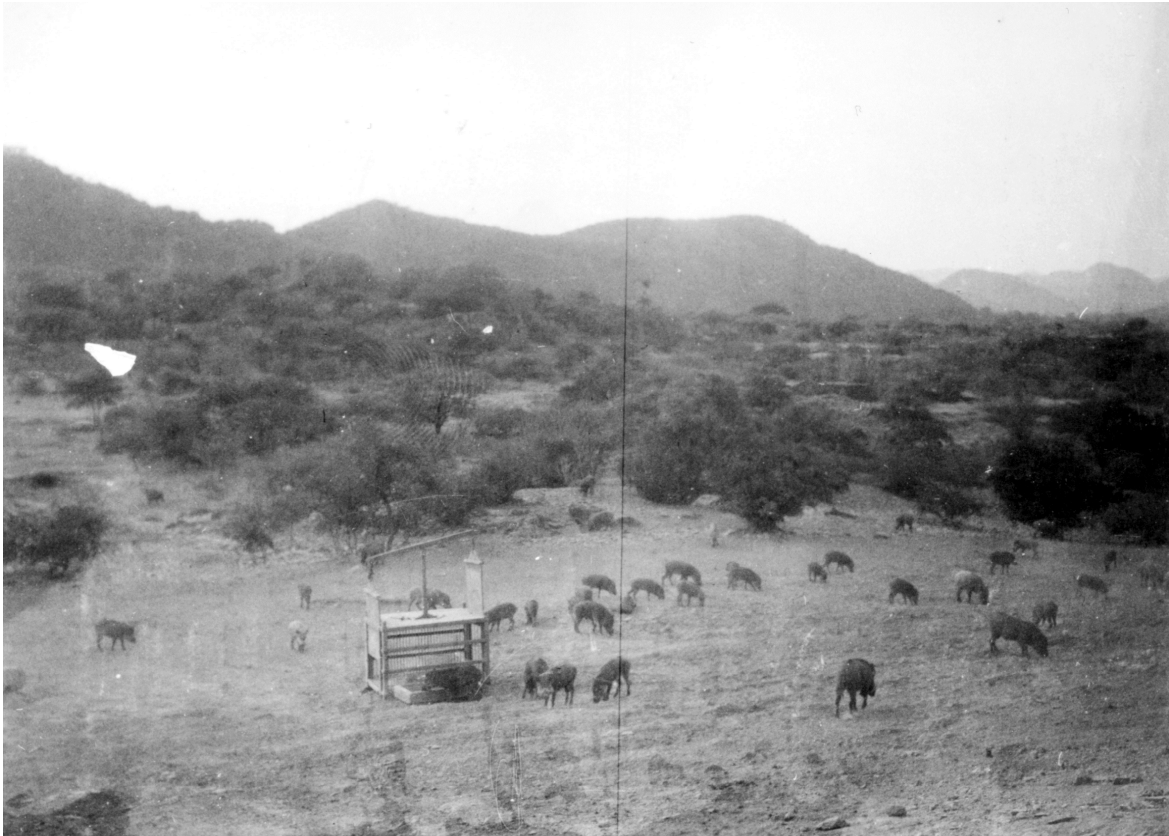
**FIGURE 1.** Maharana Fateh Singh watching a wild boar fighting a tiger inside Khas Odi, by Shiva Lal, Mewar, c. 1890, © MMCF, Pictorial Archives of the Maharanas of Mewar, Udaipur, 2010.T.0025





FIGURE 2. Wall painting of a Mewar State *śikārī* trapping a tiger, Nar Odi, Udaipur, c. 1888, photo by the author





**FIGURE 3.** “The Wild Pig,” near Khas Odi, Udaipur, by Gertrude Bell, 1903,  
© The Gertrude Bell Archive, Newcastle University, RTW\_vol\_2\_28



**FIGURE 4.** Hundreds of Wild Boars from the jungle Swarming on the Hills near Udaipur, India, by H. C. White Company. Keystone-Mast Collection, UCR/California Museum of Photography, University of California at Riverside, 1996.0009.WX25861

<sup>1</sup> Wildlife Institute of India students made the discovery in September 2004; the news went public in February 2005, see Radhika Johari, "Of Paper Tigers and Invisible People: The Cultural Politics of Nature in Sariska," in *Making Conservation Work: Securing Biodiversity in this New Century*, eds. Ghazala Shahabuddin and Mahesh Rangarajan (New Delhi: Permanent Black, 2007), 48; Sunny Sebastian, "Sariska Gets a Tiger," *The Hindu*, 29 June 2008, <http://www.hindu.com/2008/06/29/stories/2008062960011000.htm> (accessed 20 August 2013); see also Anindo Dey, "After 4 Years, Sariska Gets a Tiger," *Times of India*, 29 June 2008, [http://articles.timesofindia.indiatimes.com/2008-06-29/flora-fauna/27748446\\_1\\_sariska-nayapani-r-n-mehrotra](http://articles.timesofindia.indiatimes.com/2008-06-29/flora-fauna/27748446_1_sariska-nayapani-r-n-mehrotra) (accessed 20 August 2013), and Somesh Goyal, "Burning Bright Again," *The Indian Express*, 3 July 2008, <http://www.indianexpress.com/news/burning-bright-again/329552/> (accessed 20 August 2013); Sunita Narain, H.S. Panwar, Madhav Gadgil, Valmik Thapar, and Samar Singh, *Joining the Dots: The Report of the Tiger Task Force* (New Delhi: Union Ministry of Environment and Forests (Project Tiger), 2005), 14; Neha Sinha, "Echo of 1928 in Sariska Experiment," *The Indian Express*, 6 July 2008, <http://www.indianexpress.com/news/echo-of-1928-in-sariska-experiment/332229/1> (accessed 20 August 2013).

<sup>2</sup> Efforts to obtain tigers began in 1928, see Diwan of Dungarpur, to Political Agent, Southern Rajputana States Agency, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India; Prakash Bhandari, "1930: Story of the First Tiger Relocation," *Times of India*, 6 July 2008, [http://articles.timesofindia.indiatimes.com/2008-07-06/flora-fauna/27926740\\_1\\_tiger-relocation-sariska-tiger-population](http://articles.timesofindia.indiatimes.com/2008-07-06/flora-fauna/27926740_1_tiger-relocation-sariska-tiger-population) (accessed 20 August 2013). Although this was likely the first attempt with the aim of reestablishing the species in a specific territory, it was already fairly common for princes to move tigers within their own states for various purposes, send juveniles to neighboring princes as gifts, and even to 'seed' a jungle with a tiger for a visiting VIP to shoot.

<sup>3</sup> Divyabhanusinh, *The Story of Asia's Lions*, rev. ed. (2005; Mumbai: Marg Publications, 2008), 191.

<sup>4</sup> "Another Big Cat Relocated, Sariska Tiger Count Reaches 9," *Times of India*, 24 January 2013, [http://articles.timesofindia.indiatimes.com/2013-01-24/flora-fauna/36525754\\_1\\_sariska-tiger-nayapani-tigress](http://articles.timesofindia.indiatimes.com/2013-01-24/flora-fauna/36525754_1_sariska-tiger-nayapani-tigress) (accessed 20 August 2013); Manjari Mishra, "Madhya Pradesh Tigers to Head for Sariska Sanctuary," *Times of India*, 11 April 2013, [http://articles.timesofindia.indiatimes.com/2013-04-11/flora-fauna/38462370\\_1\\_sariska-forest-minister-sartaj-singh-tigers](http://articles.timesofindia.indiatimes.com/2013-04-11/flora-fauna/38462370_1_sariska-forest-minister-sartaj-singh-tigers) (accessed 20 August 2013).

<sup>5</sup> On these topics, see especially John M. MacKenzie, *The Empire of Nature: Hunting, Conservation and British Imperialism* (New York: Manchester University Press, 1988), and Charles Allen and Sharada Dwivedi, *Lives of the Indian Princes* (New York: Crown Publishers, Inc., in association with the Taj Hotel Group, 1984).

<sup>6</sup> There is an extensive literature on masculinity and martial culture in relation to landscape or *bhum* (land or territory) and concepts of power among the Rajputs. I have found the following of particular value: Lindsey Harlan, *The Goddesses Henchmen: Gender in Indian Hero Worship* (New York: Oxford University Press, 2003), 29-70; Malavika Kasturi, *Embattled Identities: Rajput Lineages and the Colonial State in Nineteenth-Century North India* (New Delhi: Oxford University Press, 2002), 64-101 and 172-199; Ann Grodzins Gold, *In the Time of Trees and Sorrows: Nature, Power, and Memory in Rajasthan* (Durham, NC: Duke University Press, 2002), 241-276. Not specifically about Rajputs but nevertheless informative are Joanne Punzo Waghorne, *The Raja's Magic Clothes: Revisioning Kingship and Divinity in England's India* (University Park, PA: Pennsylvania State University Press, 1994), 165-188, and Frances Zimmerman, *The Jungle and the Aroma of Meats: An Ecological Theme in Hindu Medicine* (Berkeley: University of California Press, 1987), 159-179 and 181-185. For a more direct treatment of masculinity and martial culture in relation to princely hunting than is necessary for the purposes of this article, see Julie E. Hughes, *Animal Kingdoms: Hunting, the Environment, and Power in the Indian Princely States* (New Delhi: Permanent Black, 2012; Cambridge, MA: Harvard University Press, 2013), 84-136 and 185-221.

<sup>7</sup> Waltraud Ernst and Biswamoy Pati, "People, Princes and Colonialism," 1-14, in *India's Princely States: People, Princes and Colonialism*, eds. Waltraud Ernst and Biswamoy Pati (New York: Routledge, 2007), 4.

<sup>8</sup> Ernst and Pati, "People, Princes and Colonialism," 4 and n. 6; Manu Bhagavan, *Sovereign Spheres: Princes, Education, and Empire in Colonial India* (New York: Oxford University Press, 2003); David Cannadine, *Ornamentalism: How the British Saw Their Empire* (New York: Oxford University Press, 2001).

<sup>9</sup> This may have been particularly true during the years after Curzon's resignation in 1905 and the late 1920s, during which time the Government groomed princes as political allies and developed a policy of non-interference—a policy that would be widely criticized by the early 1930s. The inauguration of non-interference is generally identified as Lord Minto's speech at Udaipur in 1909, see S.R. Ashton, *British Policy Towards the Indian States, 1905-1939* (London: Curzon Press, 1982), 44.

<sup>10</sup> For Jai Singh's experiments with optimizing revenue generation and hunting opportunities in Alwar State in the early twentieth century, which featured the "burning and razing of twenty-two villages" and contributed to the prince's removal from power, see Johari, "Paper Tigers and Invisible People," 53-55.

<sup>11</sup> For example, see D.M. Field, Note, in D.M. Field, to Diwan of Dungarpur, Banswara, Partabgarh, and Kamdar of Kushalgarh, 22 August 1928, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>12</sup> Jim Corbett, *Man-Eaters of Kumaon* (1944; New York: Oxford University Press, 1959), xv. This popular classic has been reprinted numerous times, first in 1947. A 1993 Oxford India Paperback edition shows its twenty-fourth impression in 2002. Champion's books sold fewer copies but *Jungle in Sunlight and Shadow* had a second impression in 1934, and Corbett credited *With Camera in Tigerland* with inspiring him to take up photography and only kill man-eaters, see *Man-Eaters*, 217. A less known author approvingly cites Champion's "stout defence of the tiger" and discusses his observations in both books, see V.W. Ryves, *Blang, My Tiger* (London: Arrowsmith, 1935), 65-75. For more on the influence of these authors and the shift from guns to cameras, see Mahesh Rangarajan, *India's Wildlife History* (New Delhi: Permanent Black, 2001), 68-93.

<sup>13</sup> William Cronon, "The Trouble With Wilderness; or, Getting Back to the Wrong Nature," in William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature*, 69-90 (New York: W.W. Norton & Co., 1996).

<sup>14</sup> Johari, "Paper Tigers and Invisible People," 50, 58, and 74-75.

<sup>15</sup> John T. Platts, *A Dictionary of Urdu, Classical Hindi, and English* (London: W.H. Allen & Co., 1884), s. v. "jangal," "jhārī," "ramnā," and "śikārgāh;" George Macalister, *A Dictionary of the Dialects Spoken in the State of Jeypore*, 1st ed. (Allahabad: Allahabad Mission Press, 1898), s. v. "biṛ." For more, see Gold, *Trees and Sorrows*, 241-242.

<sup>16</sup> K.D. Erskine, *Rajputana Gazetteers: The Mewar Residency*, vol. II-A (Ajmer: Scottish Mission Industries, Co., Ltd., 1908), Mewar: 8-9 and 46-48; Dungarpur: 129 and 142-143.

<sup>17</sup> It is important to note that princely wilderness was not equivalent to Sanskrit *jangala*, a characteristic landscape that it could include but was not limited to. On Sanskrit *jangala*, see Michael R. Dove, "The Dialectical History of 'Jungle' in Pakistan: An Examination of the Relationship between Nature and Culture," *Journal of Anthropological Research* 48, 3 (1992): 231-253, and Francis Zimmerman, *The Jungle and the Aroma of Meats: An Ecological Theme in Hindu Medicine* (Berkeley: University of California Press, 1987), 61.

<sup>18</sup> Diwan of Dungarpur, "Particulars of Rare Animals Which are Specially Protected," in Mewar Resident and Southern Rajputana States Agency, to Secretary to the Agent to the Governor General, Rajputana, 10 January 1935, no. 150/296/34, Government of India, Rajputana Agency Office, Political Branch, 175-P of 1939, National Archives of India.

<sup>19</sup> Frank Finn, *Sterndale's Mammalia of India* (Calcutta: Thacker, Spink & Co., 1929), 120. Lakshman Singh of Dungarpur was a graduate of Mayo College. In stark contrast to their views on Fateh Singh of Mewar, British officials hailed Lakshman Singh as a progressive reformer. While his throne and title remained far more secure than Fateh Singh's—at least through Indian independence in 1947—the scope of his sovereignty as a prince actively ruling under the ill-defined system of British paramountcy was just as tentative and controversial, see Hughes, *Animal Kingdoms*, ch. 6.

<sup>20</sup> H. Littledale, "Notes on Wild Dogs, &c.," *Journal of the Bombay Natural History Society* 7, 4 (1893), 497 and 506.

<sup>21</sup> J.D. Inverarity, "The Indian Wild Dog (*Cyon dukhunensis*), *Journal of the Bombay Natural History Society* 10, 3 (1896), 452.

<sup>22</sup> James A. Cohen, Michael W. Fox, A.J.T. Johnsingh, Bruce D. Barnett, "Food Habits of the Dhole in South India," *Journal of Wildlife Management* 42, 4 (1978), 933.

<sup>23</sup> Littledale, "Wild Dogs," 497-498.

<sup>24</sup> On stereotyped colonial understandings of Bhils and other "tribal" peoples, see Denis Vidal, *Violence and Truth: A Rajasthani Kingdom Confronts Colonial Authority* (New Delhi: Oxford University Press, 1997), 135-140.

<sup>25</sup> Littledale, "Wild Dogs," 500.

<sup>26</sup> Diwan of Dungarpur, "Particulars of Rare Animals Which are Specially Protected," in Mewar Resident and Southern Rajputana States Agency, to Secretary to the Agent to the Governor General, Rajputana, 10 January 1935, no. 150/296/34, Government of India, Rajputana Agency Office, Political Branch, 175-P of 1939, National Archives of India.

<sup>27</sup> Diwan of Dungarpur, "Particulars of Rare Animals Which are Specially Protected," in Mewar Resident and Southern Rajputana States Agency, to Secretary to the Agent to the Governor General, Rajputana, 10 January 1935,

no. 150/296/34, Government of India, Rajputana Agency Office, Political Branch, 175-P of 1939, National Archives of India.

<sup>28</sup> S. Molur, *Manis crassicaudata* (2008), in IUCN, *IUCN Red List of Threatened Species*, Version 2012.2 (2012), <http://www.iucnredlist.org> (accessed 12 January 2013); Finn, *Sterndale's Mammalia*, 262.

<sup>29</sup> It is eaten and targeted for medical purposes in parts of Africa, see K. Begg, C. Begg, and A. Abramov, "*Mellivora capensis*" (2008), in IUCN, *IUCN Red List of Threatened Species*, Version 2012.2 (2012), <http://www.iucnredlist.org> (accessed 12 January 2013).

<sup>30</sup> Molur, "*Manis crassicaudata*"; Finn, *Sterndale's Mammalia*, 262.

<sup>31</sup> Finn, *Sterndale's Mammalia*, 67.

<sup>32</sup> While porcupine do not interfere with ungulates, the famous sportsman-naturalist Jim Corbett did blame their sharp quills for incapacitating tigers and turning them into man-eaters. Neither Lakshman Singh nor his staff, however, are likely to have made this connection before Corbett's publications in the 1940s. Jim Corbett, *Man-Eaters of Kumaon* (New York: Oxford University Press, 1944), x and 138-139.

<sup>33</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>34</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>35</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India; according to a much later secondary source, there were only three, M.K. Ranjitsinh, *Beyond the Tiger: Portraits of Asian Wildlife* (New Delhi: Brijbasi Printers Private Limited, 1997), 24; another secondary source claims two, Prakash Bhandari, "1930: Story of the First Tiger Relocation," *Times of India*, 6 July 2008, [http://articles.timesofindia.indiatimes.com/2008-07-06/flora-fauna/27926740\\_1\\_tiger-relocation-sariska-tiger-population](http://articles.timesofindia.indiatimes.com/2008-07-06/flora-fauna/27926740_1_tiger-relocation-sariska-tiger-population) (accessed 13 January 2013).

<sup>36</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>37</sup> I have used the 1935 area of reserved forest in lieu of the unavailable figure for 1928, *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1992-93 Vikrami, Corresponding with A. D. 1935-36* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1937), 18. All conversions between *bighās* and km<sup>2</sup> are based on the standard *bighā* of 14,400 mi<sup>2</sup> in British India, see B.H. Baden-Powell, *The Land Systems of British India*, vol. 1 (Oxford: Clarendon Press, 1892), 459.

<sup>38</sup> Karanth et al., "Tigers and Their Prey," 4856. Their numbers are for Ranthambore.

<sup>39</sup> G.L. Betham, Mewar Resident and Southern Rajputana States Agent, to Secretary to the Agent to the Governor General, Rajputana, 27 September 1937, no. 3939/148/37, Government of India, Political Department, Political Branch, 27(8)-P of 1939, nos. 1-2, National Archives of India.

<sup>40</sup> Diwan of Dungarpur, "Particulars of Rare Animals Which are Specially Protected," in Mewar Resident and Southern Rajputana States Agent, to Secretary to the Agent to the Governor General, Rajputana, 10 January 1935, no. 150/296/34, Government of India, Rajputana Agency Office, Political Branch, 175-P of 1939, National Archives of India.

<sup>41</sup> G.L. Betham, Mewar Resident and Southern Rajputana States Agent, to Secretary to the Agent to the Governor General, Rajputana, 27 September 1937, no. 3939/148/37, Government of India, Political Department, Political Branch, 27(8)-P of 1939, nos. 1-2, National Archives of India.

<sup>42</sup> Ranjitsinh, *Beyond the Tiger*, 24; see also Bhandari, "First Tiger Relocation."

<sup>43</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>44</sup> *Imperial Gazetteer of India*, vol. 11 (Oxford: Clarendon Press, 1908), 383.

<sup>45</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>46</sup> *Śikār kā Nakṣā*, 71-72.

<sup>47</sup> *Śikār kā Nakṣā*, 21 and 71-72.

<sup>48</sup> If 82 tiger and 220 leopard were killed in Mewar between 1884 and 1921, then a minimum of 82 tiger and 220 leopard lived in Mewar between 1884 and 1921.

<sup>49</sup> Dhaibhai Tulsinath Singh Tanwar, *Śikārī aur Śikār* (Udaipur: privately printed, 1956), 197; Dhaibhai Tulsinath Singh Tanwar, *Saṁsmaraṇ: Mahārāṇa Fatah Sinhjī, Mahārāṇa Bhūpal Sinhjī, Mahārāṇa Bhagvat Sinhjī Mewār* (Udaipur: privately printed, 1982), 81-82.

<sup>50</sup> For the sake of simplicity, my model assumes yearly replenishment of game from outside sources.

<sup>51</sup> There were 4,660 mi<sup>2</sup> (12,069 km<sup>2</sup>) forests, of which 72 mi<sup>2</sup> (186.5 km<sup>2</sup>) were reserved, see Erskine, *Mewar Residency*, 51-52.

<sup>52</sup> K. Ullas Karanth, James D. Nichols, N. Samba Kumar, William A. Link, James E. Hines and Gordon H. Orians, "Tigers and Their Prey: Predicting Carnivore Densities from Prey Abundance," *Proceedings of the National Academy of Sciences of the United States of America* 101, 14 (2004), 4856-4857.

<sup>53</sup> Y.V. Jhala, Q. Qureshi, R. Gopal, and P.R. Sinha, eds., *Status of Tigers, Co-predators and Prey in India, 2010* (New Delhi and Dehradun: National Tiger Conservation Authority, Govt. of India, and Wildlife Institute of India, 2011), 71 and 76.

<sup>54</sup> Hughes, *Animal Kingdoms*, 121-122.

<sup>55</sup> Vidal, *Violence and Truth*, 121. Vidal speaks of two distinct movements that overlapped in the early 1920s, the Bijolia movement and the Motilal movement, which was an off-shoot of the Bijolia movement dominated by the Bhil community, and which later was termed the *eki* movement, 127. For more on the *eki* movement, see Hari Sen, "The Maharana and the Bhils: The 'Eki' Movement in Mewar, 1921-22," 157-166, in *India's Princely States: People, Princes and Colonialism*, eds. Waltraud Ernst and Biswamoy Pati (New York: Routledge, 2007). According to W.H.J. Wilkinson, Mewar Resident, conditions gradually worsened under Fateh Singh after the Political Department inaugurated its policy of non-interference in 1903: without firm guidance his rule devolved into despotism, his officials became corrupt, the administration inefficient, and the justice system inadequate, see Ashton, *British Policy Towards the Indian States*, 76.

<sup>56</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>57</sup> Ranjitsinh, *Beyond the Tiger*, 24. Naturally, this shift also reflected the increased availability of tigers in Dungarpur from 1928.

<sup>58</sup> *His Highness' General Shooting Diary*, vol. 2 (Bikaner: Government Press, 1941), passim; for more on interwar wildfowling, see Hughes, *Animal Kingdoms*, 147-149. Perhaps because Ganga Singh valued wild boar and leopard less than wildfowl and tiger, his averages for these animals did not change significantly.

<sup>59</sup> *Śikār kā Nakṣā* (Udaipur: c. 1931), 22.

<sup>60</sup> G.N. Sharma, ed., *Haqiqat Bahida: H.H. Maharana Fateh Singhji 24 Dec., 1884 to 24 May, 1930* (Udaipur: Maharana Mewar Research Institute, 1992-97), wild boar: 1:95, 4:402, 4:482, 4:501, 4:502, 4:539; leopard: 3:129, 4:459, 4:541, 5:198; tiger: 4:490; sloth bear: 4:538; for three more potential kills by Bhupal Singh, see 3:319.

<sup>61</sup> June 1921 petitions to the prince addressed the issue of *begār*, Singh, "The 'Eki' Movement in Mewar," 158.

<sup>62</sup> Fateh Singh, to Lord Reading, c. 1924, 10, acc. no. 27262, Maharana Mewar Special Library, Udaipur.

<sup>63</sup> Hughes, *Animal Kingdoms*, 110-111 and 225-235.

<sup>64</sup> Hughes, *Animal Kingdoms*, 229-230 and 257-261.

<sup>65</sup> Julie Hughes, "Environmental Status and Wild Boar in Princely India," in K. Sivaramakrishnan and Mahesh Rangarajan, eds., *Shifting Ground: People, Animals, and Mobility in India's Environmental History* (New Delhi: Oxford University Press, in press).

<sup>66</sup> Tanwar, *Saṁsmaraṇ*, 75.

<sup>67</sup> The rate at which Fateh Singh killed sambar decreased from a decadal average of 17.6 prior to 1921, to a decadal average of 16 after 1921. Fateh Singh was responsible for 14% of sambar killed between 1884 and 1921, as reported in the *Śikār kā Nakṣā*. Assuming he also shot 14% of sambar killed between 1921 and 1930, the total number killed was 114. Assuming Fateh Singh shot sambar steadily over the decade and that all 114 sambar died in Fateh Singh's 186 km<sup>2</sup> of game preserves, the reduction in sambar population density per 100 km<sup>2</sup> would have been 6.13 animals per year. This number should have had little impact on the opportunities for tiger or leopard predation, especially considering that Fateh Singh's decadal averages for other prey species including chital, chinkara, four-horned antelope, and blackbuck were all between zero and five after 1921, down from just over two for chital and under six for chinkara prior to 1921.

<sup>68</sup> Allen and Dwivedi, *Lives of the Indian Princes*, 143.



<sup>69</sup> G.L. Betham, Mewar Resident and Political Agent, Southern Rajputana States Agency, to Secretary to the Agent to the Governor General, Rajputana, 27 September 1937, no. 3939/148/37, Government of India, Political Department, Political Branch, 27(8)-P of 1939, nos. 1-2, National Archives of India.

<sup>70</sup> *Status of Tigers*, 67; Rajendra Sharma, "Sariska Reserve Gets Tiger Number 007," *Times of India*, 1 October 2012, [http://articles.timesofindia.indiatimes.com/2012-10-01/jaipur/34196784\\_1\\_sariska-reserve-second-big-cat-tigress-st-2](http://articles.timesofindia.indiatimes.com/2012-10-01/jaipur/34196784_1_sariska-reserve-second-big-cat-tigress-st-2) (accessed 19 January 2013); "New Tiger Cubs Soon in Sariska?," *Times of India*, 20 January 2013, [http://articles.timesofindia.indiatimes.com/2013-01-29/jaipur/36615023\\_1\\_sariska-tiger-reserve-second-tigress-tiger-population](http://articles.timesofindia.indiatimes.com/2013-01-29/jaipur/36615023_1_sariska-tiger-reserve-second-tigress-tiger-population) (accessed 20 August 2013). The resilience of Mewar's tiger and leopard populations in the 1920s and 1930s surely was enhanced by far greater connectivity between suitable habitats than exists today in isolated parks like Sariska, *Status of Tigers*, vii, xi, xv, and 69; Sudhanshu Mishra, "Big Cat Translocation Programme: Tiger Cub Finally Arrives in Sariska," *India Today*, 8 August 2012, <http://indiatoday.intoday.in/story/big-cat-translocation-programme-tiger-cub-finally-arrives-in-sariska/1/212401.html> (accessed 20 August 2013).

<sup>71</sup> 78% of the animals involved were wild boar, tiger, or leopard.

<sup>72</sup> C. Raja Raja Varma, *Raja Ravi Varma, Portrait of an Artist: The Diary of C. Raja Raja Varma*, ed. Edwin Neumayer and Christine Schelberger (New Delhi: Oxford University Press, 2005), 88.

<sup>73</sup> Arundhati, *Royal Life in Mānasōllāsa* (Delhi: Sundeep Prakashan, 1994), 34-35.

<sup>74</sup> Valerian root is an attractant that works similarly to catnip on many felids, including domestic cats. It is attractive to a majority of adults of both sexes; it does not mimic the scent of a female in heat but rather, by undetermined means, elicits "a bizarre mix of play, feeding, and female sexual behavior, whether the cat itself is male or female," John Bradshaw, *Cat Sense: How the New Feline Science Can Make You a Better Friend to Your Pet* (New York: Basic Books, 2013), 115. In fact, some cat attractants can be used to attract rats and canids, see Arthur O. Tucker and Sharon S. Tucker, "Catnip and the Catnip Response," *Economic Botany* 42, 2 (1988), 219.

<sup>75</sup> Tanwar, *Śikārī aur Śikār*, 30; K. Singh, *Hints on Tiger Shooting*, 67-68.

<sup>76</sup> K. Singh, *Hints on Tiger Shooting*, 67-68.

<sup>77</sup> Tanwar, *Śikārī aur Śikār*, 32.

<sup>78</sup> Tanwar, *Śikārī aur Śikār*, 32.

<sup>79</sup> Tanwar, *Śikārī aur Śikār*, 169.

<sup>80</sup> Gertrude Bell, "The Wild Pig" (1903), © The Gertrude Bell Archive, Newcastle University, RTW\_vol\_2\_28. The 1890 and c. 1888 cages may have been two-doored as well: in both paintings only one end is visible.

<sup>81</sup> "Hundreds of Wild Boars from the Jungle Swarming on the Hills near Udaipur, India," Keystone-Mast Collection, UCR/California Museum of Photography, University of California at Riverside, 1996.0009.W27462 and 1996.0009.WX25861.

<sup>82</sup> It would have been possible to winch the doors open and, rather than locking the mechanism, rig it to spin freely the moment the cage was disturbed, causing the door to come crashing down. The precise method of "springing the trap" does not appear to have been built into the cage itself, but instead likely relied on a wire or rope connecting the springing mechanism with the bait. When the bait was disturbed with sufficient force (i.e., a live goat could not do it, but a tiger killing and attempting drag the goat away could), the trap would spring.

<sup>83</sup> Arthur Cunningham Lothian, *Kingdoms of Yesterday* (London: John Murray, 1951), 46.

<sup>84</sup> Andrew H.L. Fraser, *Among Indian Rajahs and Ryots: A Civil Servant's Recollections and Impressions of Thirty-Seven Years of Work and Sport in the Central Provinces and Bengal* (London: Seeley, Service & Co., Limited, 1912), 172.

<sup>85</sup> K. Singh, *The Tiger of Rajasthan* (London: Robert Hale Limited, 1959), 153.

<sup>86</sup> "Statement of Durable Articles of Shikarkhana under Budget Animal Department, Samvat 1979," *Darbar Policy Relating to The Finance Department (Gwalior State)*, v. 6, trans. Jay Gopal Ashthana, revised by K.N. Haksar (Gwalior: Alijah Darbar Press, Lashkar, 1925), 202.

<sup>87</sup> Lothian, *Kingdoms of Yesterday*, 98.

<sup>88</sup> Sharma, ed., *Haqiqat Bahida* 4:367.

<sup>89</sup> Kesri Singh, *Hints on Tiger Shooting (Tigers by Tiger)* [sic] (Bombay: Jaico Publishing House, 1975), 79 and 80.

<sup>90</sup> K. Singh, *One Man and a Thousand Tigers*, 148-149.

<sup>91</sup> K. Singh, *Hints on Tiger Shooting*, 79 and 83. Note that Singh gives a different accounting of Hero's fate in *One Man and a Thousand Tigers*, 146.

<sup>92</sup> K. Singh, *One Man and a Thousand Tigers*, 81.

<sup>93</sup> Udaipur: Sharma, ed., *Haqiqat Bahida*, 2:5, 2:69, 2:211, 3:65, and 3:71; Tanwar, *Śikārī aur Śikār*, 349; Bikaner: "Shikarkhana Budget Estimate for 1914-15," annotated by Military Member and Ganga Singh, Bikaner State, Army

Department, s. no. 59, b. no. 2, f. no. A491-497 of 1915, Rajasthan State Archives, Bikaner; *Detailed Instructions Relating to the Visit to Bikaner of Their Excellencies the Viceroy and the Lady Irwin. January-February, 1929* (Bikaner: Government Press, 1929), 25; Jaipur: Kipling, *From Sea to Sea*, 17; K. Singh, *Hints on Tiger Shooting*, 79; Nawalgarh: K. Singh, *Hints on Tiger Shooting*, 79.

<sup>94</sup> Undated photograph, Pictorial Archives of the Maharanas of Mewar, Udaipur; Tanwar, *Śikārī aur Śikār*, 312.

<sup>95</sup> Tanwar, *Śikārī aur Śikār*, 349.

<sup>96</sup> Compare with Surendra Nath Roy's assertions in his *History of the Native States of India*, in Ramusack, *Indian Princes*, 98.

<sup>97</sup> Tanwar, *Śikārī aur Śikār*, 292-293; witness depositions (c. 7 July 1939), b. no. 18, f. no. 20/6, s. no. 405 of 1939 (1996 VS), Udaipur *Jangalāt Śikār*, Rajasthan State Archives, Bikaner; petition of the people of Raj Nagar, to Prime Minister (c. 1941), b. no. 20, f. no. 20/2, s. no. 438 of 1940 (1997 VS), Udaipur *Jangalāt Śikār*, Rajasthan State Archives, Bikaner.

<sup>98</sup> For several examples, see William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W.W. Norton & Co., 1996).

<sup>99</sup> Diwan of Dungarpur, to Southern Rajputana States Agent, 15 November 1928, no. 2651, Government of India, Southern Rajputana States Agency, 261-G of 1928, National Archives of India.

<sup>100</sup> Undated photograph, Pictorial Archives of the Maharanas of Mewar, Udaipur.

<sup>101</sup> Gamir Singh Chauhan, circular no. 235, *samvat* 1965 *asar sud* 14, book of Mewar Mahakma Khas circulars beginning VS 1951, Rajasthan State Archives, Udaipur.

<sup>102</sup> A thorough comparison of wildlife and forest management in British vs. princely India is beyond the scope of this article. By the late nineteenth century, British India had more elaborate laws in place, while codification in many states did not occur until the twentieth century. Rules tended to be more complex in British India, where there were more legitimate shooters and more sustained attempts to implement 'scientific' management and closed seasons than in the states, where only a handful of individuals could hunt anyways. In terms of state sponsored catching, relocating, gifting, and displaying of wildlife, the states far outstripped the Government of India in their activities and infrastructure.

<sup>103</sup> *Report on the Administration of the Dungarpur State, Rajputana, for the Year 1940-41 (Vikrami 1997-98)* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1942), 32; *Report on the Administration of the Dungarpur State for the Year 1942-43 (Vikrami 1999-2000)* (Dungarpur: Published by Authority, Shri Lakshman Bijaya Printing Press, 1945), 36; *Report on the Administration of the Dungarpur State, Rajputana, for the Year 1943-44 (Vikrami 2000-2001)* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1946), 38. This was true of Village Forests prior to 1935 as well, see *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat 1976-77 Bikrami (Corresponding to 1919-20 A.D.)* (Rawalpindi: J.R. Thapur & Sons, c. 1921), 13; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1977-78 (Bikrami) (Corresponding to 1920-21 A.D.)* (Dungarpur: Published by Authority, c. 1922), 12.

<sup>104</sup> *Dungarpur Administration 1943-44*, 40; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1981-82 Bikrami Corresponding to 1924-25 A.D.* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1926), 11; *Dungarpur Administration 1940-41*, 33.

<sup>105</sup> *Dungarpur Administration 1942-43*, 36.

<sup>106</sup> *Dungarpur Administration 1940-41*, 33.

<sup>107</sup> *Dungarpur Administration 1943-44*, 40.

<sup>108</sup> *Administration of the Dungarpur State for Sambat Year 1966-67 [1909-10 A.D.]* (Allahabad: Ram Nath Bhargava, c. 1911), 6; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1970-71 (A.D. 1913-14)* (Rawalpindi: J.R. Thapur & Sons, c. 1915), 17; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1973-1974 (Corresponding to 1916-1917)* (Rawalpindi: J.R. Thapur & Sons, c. 1918), 19; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat 1974-1975 Bikrami (A.D. 1917-1918)* (Rawalpindi: J.R. Thapur & Sons, c. 1919), 11; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat 1975-76 Bikrami (Corresponding to 1918-19 A.D.)* (Rawalpindi: J.R. Thapur & Sons, c. 1920), 10; *Dungarpur Administration 1920-21*, 11; *Dungarpur Administration 1924-25*, 5; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1983-84 (Vikrami) Corresponding with 1926-27* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1928), 6; *Report on the Administration of the Dungarpur State, Rajputana, for the Samvat Year 1992-93 Vikrami (Corresponding with A.D. 1935-36)* (Dungarpur: Shri Lakshman Bijaya Printing Press, 1937), 12; *Dungarpur Administration 1942-43*, 25; *Dungarpur Administration 1943-44*, 19.

<sup>109</sup> *Dungarpur Administration 1943-44*, 19. The number is .833 in trees per *bighā*. There were 60,000 *bighās* (80.3 km<sup>2</sup>) of Village Forests in 1944.

<sup>110</sup> These numbers represent, respectively, increases in area of 2.2%, 17.2%, and 1.4%.

<sup>111</sup> *Dungarpur Administration 1940-41*, 32.

<sup>112</sup> *Dungarpur Administration 1943-44*, 38.

<sup>113</sup> Ranjitsinh, *Beyond the Tiger*, 24.

<sup>114</sup> *Dungarpur Administration 1943-44*, 43.

<sup>115</sup> Vikramaditya Thakur, "Logjam: Peasantization Led Deforestation around the Narmada Valley," in Sivaramakrishnan and Rangarajan, eds., *Shifting Ground* (in press).

<sup>116</sup> Ghazala Shahabuddin, *Conservation at the Crossroads: Science, Society, and the Future of India's Wildlife* (Ranikhet: Permanent Black, 2010), 44; Mahesh Rangarajan and Ghazala Shahabuddin, "Displacement and Relocation from Protected Areas: Towards a Biological and Historical Synthesis," *Conservation and Society* 4, 3 (2006), 373; Radhika Johari, "Of Sanctions and Sanctuary-Making: The Cultural Politics of Nature in Sariska Tiger Reserve, Rajasthan, India, 1885-2000," MA thesis (Toronto: York University, 2003), 113-124; Johari, "Paper Tigers and Invisible People," 57.

<sup>117</sup> On the difficulties of understanding what any given author means by "forest," see Kathleen Morrison, "Opening Up the Pre-Colonial: Primeval Forests, Baseline Thinking, and Other Archives in Environmental History," in Sivaramakrishnan and Rangarajan, eds., *Shifting Ground* (in press).

<sup>118</sup> *India State of Forest Report 2011* (Dehradun: Forest Survey of India, Ministry of Environment and Forests, Government of India, 2011), 210.

<sup>119</sup> *Dungarpur Administration 1943-44*, 38.

<sup>120</sup> The estimated area was 2,500 mi<sup>2</sup> (6,475 km<sup>2</sup>), see *Report on the Administration of Mewar State for Years 1940, 1941 and 1942* (Madras: Madras Law Journal Press, 1944), 11.

<sup>121</sup> *Status of Tigers*, 53.

<sup>122</sup> A.P. Andheria, K.U. Karanth, and N.S. Kumar, "Diet and Prey Profiles of Three Sympatric Large Carnivores in Bandipur Tiger Reserve, India," *Journal of Zoology* 273 (2007), 169.

<sup>123</sup> Data derived from "Wild Life Census Year 2010 Outside Protected Areas (Rajasthan)" and "Wild Life Census Year 2010 Inside Protected Areas (Rajasthan)," Rajasthan Forest Department (2010), [http://www.rajforest.nic.in/cwlv/pdf/Wild%20Animal%20Census\\_outside\\_2010.pdf](http://www.rajforest.nic.in/cwlv/pdf/Wild%20Animal%20Census_outside_2010.pdf) and [http://www.rajforest.nic.in/cwlv/pdf/Wild%20Animal%20Census\\_inside\\_%202010.pdf](http://www.rajforest.nic.in/cwlv/pdf/Wild%20Animal%20Census_inside_%202010.pdf) (accessed 25 January 2013).

<sup>124</sup> Jai Singh of Alwar similarly aimed to have it all, see Johari, "Paper Tigers and Invisible People," 53.

<sup>125</sup> Daniel Faith, "Biodiversity," in Edward N. Zalta, ed., *The Stanford Encyclopedia of Philosophy* (Fall 2008 ed.), <http://plato.stanford.edu/archives/fall2008/entries/biodiversity/> (accessed 25 January 2013).

<sup>126</sup> In Mewas, and perhaps elsewhere, "the inaction of the locals, Bhils in this case, in opposing the loss of their own resource base" has been overlooked; they in fact "had compelling reasons" to enthusiastically participate in commercial forestry, see Thakur, "Logjam."

<sup>127</sup> According to Lakshman Singh such awareness may have come rather late for many princes: "Nobody thought princely rule would end at that time. Even in 1945 I never thought it would end, but when Churchill lost that vital election, I thought then that something would happen," in Allen and Dwivedi, *Lives of the Indian Princes*, 316.

<sup>128</sup> Thakur, "Logjam."

<sup>129</sup> Divyabhanusinh, "Junagadh State and its Lions," 539. Indeed, Lakshman Singh of Dungarpur reported of Mewar under Fateh Singh: "there were five of the nobles plus the Maharana and occasionally the Resident...And that was about it. Seven people shooting tigers in an area of 13,000 square miles," in Allen and Dwivedi, *Lives of the Indian Princes*, 142.

<sup>130</sup> Mahesh Rangarajan, *India's Wildlife History*, 37.

<sup>131</sup> Jai Singh of Alwar in particular was guilty of forcibly shifting nomadic graziers out and allowing new revenue-generating settlements and commercial working of some forests in the hunting grounds now inside the Sariska Tiger Reserve. These villages today face relocation, see Johari, "Paper Tigers and Invisible People," 59 and 61-62, and Shahabuddin, *Conservation at the Crossroads*, 13.