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**“Hunting, Agriculture, and the Quest for International Wildlife Conservation during the Early Twentieth Century”**

Mark Cioc  
History Department  
University of California, Santa Cruz

This paper is part of a book-in-progress, tentatively entitled *The Game of Conservation: International Agreements to Protect the World’s Migratory Animals*. My basic argument is that the major wildlife-protection treaties of the early twentieth century are best understood as international *hunting* treaties rather than as *conservation* treaties. By and large, prominent hunters and ex-hunters—“penitent butchers” in the words of their critics—were the guiding force behind the treaties, and they were often far more concerned with the protection of specific hunting grounds and prized prey than with the safeguarding of habitats, ecosystems, or bioregions. Over time, wildlife managers and conservationists tried to tweak these treaties into full-fledged nature-protection agreements. They discovered, however, that textual limitations embedded in the treaties thwarted their efforts, and after 1950 they began to push for new approaches based on the precepts of biodiversity, bioregionalism, and interconnectivity. The strengths and weaknesses of these early treaties, and the impact they had on subsequent conservation agreements, form the main subject matter of the book.<sup>1</sup>

I will not try to summarize the book here. Instead, I will focus on just two key diplomatic initiatives that led to four treaties: the Convention for the Preservation of Wild Animals, Birds, and Fish in Africa (1900) and the Convention Relative to the Preservation of Flora and Fauna in their Natural State (1933), the two treaties that gave rise to Africa’s national parks and nature reserves; and the Convention for the Regulation of Whaling (1931) and the International

Convention for the Regulation of Whaling (1946), the two treaties that attempted unsuccessfully to create a sustainable regime for commercial whaling.

I chose these treaties because they typify the “hunting mentality” of the period, and also because agriculture-related issues affected their formulation and implementation (a dimension often overlooked by scholars working on conservation diplomacy and environmental law). The African treaties are used here to highlight the problem of habitat “interconnectivity.” Environmentalists have long recognized that it is not sufficient to protect species or even to protect key habitats; long-term conservation depends on the maintenance of pathways between these habitats so that animals can move from region to region to breed and feed. The rough-and-tumble of African colonial politics, however, made it impossible to create anything remotely like a network of interconnected parks and nature reserves. What emerged instead was a multitude of discrete parks and nature reserves, in which little thought to the migratory routes of animals or to inter-park pathways. The whaling treaties are used here to illustrate a different kind of interconnectivity: the connection between plant oil production (canola, soy, copra, peanut, palm, linseed, and others) and the whaling industry. One of the chief obstacles to whale protection was the fact that the fat industry used whale oil as a price-fixing tool designed to keep the price of plant oil as low as possible. While scholars have rightly focused on two other prime causes of the whale depletion—the “global commons” problem on the high seas and the use of the Blue Whale Unit (BWU) as a regulatory tool—relatively little attention has been paid to the industry’s major product, whale oil, and its connection to the world fat industry.

My interest in wildlife conservation began when I read Aldo Leopold’s *Game Management*, a book published in 1933 and one still widely appreciated by game wardens and wildlife specialists today. Leopold defined game management as “the art of making land

produce sustained annual crops of wild game.” A professional forester and avid hunter, Leopold took a practical approach to conservation: wild animals should be cultivated, like wheat and corn, their numbers augmented for human consumption. “There are still those who shy at this prospect of a man-made game crop as at something artificial and therefore repugnant,” he noted. “This attitude shows great taste but poor insight. Every head of wild life still alive in this country is already artificialized, in that its existence is conditioned by economic forces.”<sup>2</sup>

Farmers, Leopold pointed out, had long ago developed a variety of techniques—seeding, weeding, irrigating, fertilizing, fallowing, and the like—to maximize their annual yields. “Game cropping,” by contrast, was in its infancy and the tools of the trade still experimental and in flux. “History shows that game management nearly always has its beginnings in the control of the hunting factor,” Leopold noted in the staccato-like prose for which he was famous: “Other controls are added later. The sequence seems to be about as follows: 1. Restriction of hunting. 2. Predator control. 3. Reservation of game lands (as parks, forests, refuges, etc.). 4. Artificial replenishment (restocking and game farming). 5. Environmental controls (control of food, cover, special factors, and disease).”<sup>3</sup>

Commercial hunting was (and, on the high seas, remains to this day) essentially an extractive industry. Left to their own devices, market hunters deplete species the way miners deplete ore seams, moving to new sites after exhausting the old ones, thinking only of today’s profit and not tomorrow’s supply. Behind the killing frenzy in Africa was the enormously lucrative trade in ivory tusks, skins, and feathers. Behind the boom in whale hunting was the demand for edible fats, with millions of pounds of blubber ending up as margarine and lard on the kitchen tables of Europe. What made *Game Management* so timely was that Leopold called

for a more sensible model of wildlife conservation, one that replaced the mining mentality of the market hunter with the more sustainable model of farming.

If I were to venture one criticism of *Game Management* it is that Leopold overlooked one of the key tools of animal conservation: *international diplomacy*. Few game species reside solely within the borders of a single country. Most are mobile creatures, which crisscross national frontiers according to their needs, living at certain times of the year in colder and more temperate regions and other times in warmer and equatorial ones. Hunting laws, predator control, forest reserves, game cropping, and habitat manipulation are all indispensable tools of conservation, but they often have little lasting value if neighboring regions do not take similar measures. Effective game management depends on intergovernmental links, transnational cooperation, and international agreements.

Governments worldwide have signed nearly 1500 environmental treaties and agreements over the past one hundred years, fully half of which address the question of wildlife protection directly or indirectly. Many are simple bilateral fishing agreements designed to protect a shared river or a common delta. Others entail complex multinational initiatives that attempt to protect individual species or animal groups across many contiguous and non-contiguous countries. Still others handle habitat protection across thousands of miles, sometimes affecting regions far removed from human settlements. Big or small, comprehensive or limited, bilateral or multilateral, each treaty testifies to the importance of transnational cooperation in the effort to protect the world's wildlife.<sup>4</sup>

Space does not permit me to provide much of a historical backdrop here, but a few points need highlighting. First and foremost, these treaties are explicable only within the context of the scientific-technological revolution (or “second industrial revolution”) and the resulting

resurgence of colonialism (or “neo-imperialism”) that largely determined the course of world affairs during the second half of the nineteenth century. The ever-increasing demand for raw materials (especially tropical products) pushed the European powers in the direction of global imperialism. So did the construction of railroads and canals, the development of steel-hulled ships, and the invention of nitroglycerin. The result was a “scramble for Africa” that brought the sub-Saharan regions almost completely under European domination; and a mad dash to Antarctica by whaling fleets eager to compete in what the whalers themselves jokingly called the “whaling olympics” (with gold going to the enterprise that massacred the most whales in the shortest period to time). New killing techniques played a major role as well. One thinks here especially of the breech-loading and magazine rifles that Europeans brought with them to Africa, and the grenade-tipped harpoon gun that Norwegian whalers used with such devastating effect on the high seas. Collectively these forces initiated what can aptly be described as a “war of extermination” against the world’s wildlife.

As the earliest industrial nation and largest colonial power, Great Britain played a major role in formulating and implementing these treaties (as it did for most animal-protection treaties in the first half of the twentieth century). The British Colonial Office hosted the 1900 and 1933 African conventions, and British conservationists established many of Africa’s most famous national parks and reserves. British diplomats also exerted an immense influence over the terms of the whaling treaties, in part because Britain was a major whaling power (second only to the Norway) and in part because a British-based consortium, the Unilever Group, enjoyed a virtual monopoly over the global whale-oil trade. The U.S. presence deserves to be highlighted as well. Americans were actively engaged in the movement for African conservation, even if President Theodore Roosevelt’s safari excesses were a matter of international consternation. Though not a

major whaling power, the U.S. hosted the 1946 whaling conference and had a guiding hand in its formulation and implementation.

The strong presence of British and U.S. diplomats and hunters in the treaty-making process meant that Anglo-American notions of nature conservation tended to dominate. They focused on establishing uniform game regulations across frontiers so as to provide a level playing field for hunters; on reducing the illegal transport of products across national borders (“fencing” and “smuggling”) in order to enhance revenues; on the protection of game animals and waterfowl over non-game species; and on the conservation of prized prey rather than on the preservation of habitat. There were powerful forces “on the ground” that blunted the efficacy of these treaties as well. Colonial administrators, for instance, made sure that Africa’s national parks and game reserves were placed in areas that were considered to be economically useless, regardless of whether these places provided suitable habitat for the animals that were allegedly being conserved. The whaling companies, meanwhile, were willing to accept almost any restriction on hunting except the two that would best conserve whales: a species-by-species annual quota based on stock size and reproduction rates; and large sanctuaries in key feeding and breeding grounds. Given the hurdles, perhaps the most remarkable aspect of these treaties is that they came into being at all and that they managed to place some restrictions on hunting, even if (as was the case with whales) they could not halt the slaughter.

### **Africa and the Segregated Solution**

National parks and natural reserves, the *Cambridge Encyclopedia of Africa* noted in 1981, form “the backbone of nature conservation in Africa.”<sup>5</sup> These parks and reserves are the offspring of the Convention for the Preservation of Wild Animals, Birds, and Fish in Africa

(hereafter 1900 London Convention) and the Convention Relative to the Preservation of Flora and Fauna in their Natural State (hereafter 1933 London Convention).<sup>6</sup>

The “park solution” to African conservation emerged piecemeal over time, as Europeans tried to come to grips with their own disruptive impact on the continent. The destructive potential was clear almost from the first moment that the Dutch and British intruded into the southern cone (the nucleus of today’s South Africa): these early settlers managed to wipe out or endanger the blaauwbok, quagga, Cape lion, Southern Burchell’s zebra, Cape mountain zebra, bontebok, white-tailed gnu, and many other species, all with the use of the relatively inaccurate and slow-firing muzzle loaders. The destruction greatly intensified when the Belgians, Germans, and Italians joined the British, French, Portuguese, and Spanish as African colonizers in the 1880s. This “scramble” ended with the wholesale carving up of the continent and intense competition for control of its natural resources. Meanwhile, rail bed and road construction, along with new methods for controlling malaria, allowed the Europeans to colonize the continent’s interior, usurping land that had previously sustained Africa’s migratory herds. Finally, an outbreak of rinderpest in the 1890s temporarily decimated many buffalo, eland, kudu, and zebra herds, raising the specter (greatly exaggerated as it turned out) of an impending mass extermination. “Through all this great plain we passed carcasses of buffalo,” Frederick Lugard, one of Britain’s most celebrated elephant hunters, wrote in his diaries as he traveled through Kavirondo, “and the vast herds of which I had heard, and which I hoped would feed my hungry men, were gone! The breath of the pestilence had destroyed them as utterly as the Westerners of Buffalo Bill and his crew and the corned-beef factories of Chicago have destroyed the bison of America.”

At first the European governments responded to the devastation on a colony-by-colony basis. The Cape Colony introduced game legislation (a closed season, protection for immature animals, anti-trespassing measures) for elephant, hippopotamus, and bontebok in 1822. In the Transvaal, the first game protection measure came in 1846, and more legislation followed in 1858, 1891, and 1894.<sup>7</sup> The Congo Free State promulgated an elephant-protection measure in 1889. The German Southwest Africa Protectorate gave protection to ostriches and other game in 1892. Hunting laws came to British East Africa (Kenya) in 1897, through the personal intervention of Lord Salisbury, Britain's Prime Minister and Foreign Secretary. "My attention," he told the governors of the Kenyan and Ugandan colonies, "has recently been called to the excessive destruction, by travellers and others in East Africa, of the larger wild animals generally known as 'big game.' There is reason to fear that unless some check is imposed upon the indiscriminate slaughter of these animals, they will, in the course of a few years, disappear from the British Protectorate."<sup>8</sup>

By far the most important of the new colonial laws was the German East African Game Ordinance of 1896, promulgated by Governor Hermann von Wissmann. He convinced the German Colonial Office to "turn some of the game-rich areas of German East Africa into a national park." Wissmann's model—despite a nominal nod to Yellowstone, the world's first national park—was his home state of Bavaria. He envisaged a series of large game reserves, each consisting of a core and periphery. In the inner core, full protection would be given to animals year-round with no hunting whatsoever allowed. In the outer periphery, females and young would be protected during the breeding season, but hunting would be allowed during all or some months of the year, with licenses and bag limits keeping excesses in check. The basic idea was to create a "soft" form of segregation: the inner core of the game reserves would be off

limits to humans, just as agricultural and urban space would be off limits to animals; but the outer periphery would be an arena where humans and animals shared space. Or at least most animals would be allowed to share this space. Wissmann's game laws allowed for the eradication of "vermin" (crocodiles, lions, poisonous snakes, and other species that endangered human life) except in the inner core of the game reserves.<sup>9</sup>

A colony-by-colony approach to game protection, however, proved difficult to implement in the absence of transboundary cooperation. When German Southwest Africa banned the sale of female ostrich feathers in 1892, for instance, traders began to smuggle their goods across the borders to Portuguese and British ports.<sup>10</sup> Similarly, when customs authorities in Kenya and Uganda mandated the confiscation of elephant tusks under five kilogram, they discovered that traders simply started transporting the contraband over the borders to German and Italian ports.<sup>11</sup> Frustrated by this situation, the German and British governments decided to jointly sponsor an international conference in London in the hope of establishing a more coherent regulatory system. The other colonial powers agreed, and the diplomats finalized a treaty in May 1900.<sup>12</sup>

As an international hunting treaty, the 1900 London Convention was relatively successful. Using British game laws as a model, it accorded full protection to eight animals—the giraffe, gorilla, chimpanzee, mountain zebra, wild ass, white-tailed gnu (black wildebeest), eland, and Liberian (pygmy) hippo—"on account of their rarity and threatened extermination." The treaty prohibited the killing of immature elephant, rhino, hippo, zebras, buffalo, ibex, chevrotain, and various antelope and gazelle species, and banned "to a certain extent" the killing of females of these species "when accompanied by their young." It also set limits on the number of these animals (and a dozen or so others, including pigs, monkeys, cheetahs, and jackals) that

could be hunted each year. Over the next several years, nearly all the colonial governments rewrote their game ordinances to conform to the principles laid down in the convention.<sup>13</sup>

As a nature protection treaty, the 1900 London Convention was less successful. The treaty foresaw the establishment of large game reserves throughout sub-Saharan Africa within eighteen months of ratification. Using the German model, these reserves were to be “sufficiently large tracts of land which have all the qualifications necessary as regards food, water, and, if possible, salt, for preserving birds or other wild animals, and for affording them the necessary quiet during the breeding time.” Within these territories it would be “unlawful to hunt, capture, or kill any bird or other wild animal.”<sup>14</sup> Initially, the colonial governments made good on this promise. German East Africa (renamed Tanganyika Territory after World War I, when the League of Nations placed it under British mandate) created eleven reserves, and the Kenya Protectorate created two. French West Africa established seventeen reserves, Algeria ten. The Belgian Congo created thirteen protected areas, including the Parc National Albert (now Virunga National Park) in 1925, the first in Africa to be called a “national park” rather than game reserve.<sup>15</sup>

Growing military tensions in Europe, however, greatly undermined the spirit of cooperation, and when World War I broke out in 1914 the momentum for establishing game reserves began to dissipate. There was, moreover, resistance to the new hunting regime within British-controlled colonies, especially in the heavily populated regions of southern Africa, Uganda, and Kenya. White farmers and plantation owners, in particular, viewed the game reserves as threats to future agricultural development, and they bombarded the British Foreign and Colonial Offices year after year with letters voicing their concerns. Some of their concerns were overinflated, as there was nothing in the 1900 London Convention that prevented farmers

from killing animals that marauded crops or otherwise disrupted human settlements (Uganda, in fact, later instituted an Elephant Control Department in full conformity with the 1900 London Convention), but the constant barrage made it hard for colonial administrators to overlook the fact that most white colonists had come to Africa to make a fortune, not to preserve the zebra.<sup>16</sup>

Medical doctors and veterinarians involved with the control of trypanosomiasis (known as “sleeping sickness” when it infected humans and “nagana” when it infected cattle) also voiced their concerns. While the exact cause of trypanosomiasis was not yet known, everyone understood that it was somehow connected to the simultaneous presence in any given region of the tsetse fly, wild animals, and humans or cattle. (It was later determined that many wild animals carry the pathogenic trypanosome in their bloodstream, which the tsetse fly transmits to humans and domestic herds through its bite.)<sup>17</sup> Many scientists thus felt that game reserves and national parks were more to be feared as breeding grounds for the tsetse fly than welcomed as the foundation stone for sustainable game cropping. “My advice is to clear out the game,” the eminent British entomologist David Bruce bluntly told the Interdepartmental Committee on Sleeping Sickness (a British investigatory team) in 1914, when asked what policy he thought the British Colonial Office should follow in tsetse regions: “It would be quite as reasonable to allow mad dogs to run about English villages and towns under the protection of the law as to allow this poisonous big game to run about in the fly country.”<sup>18</sup> Tsetse infestations decreased during the 1920s and 1930s, as researchers learned how to control the disease better, but the ongoing *fear* of sleeping sickness and nagana made it difficult for colonial administrators to champion new game reserves in many parts of Africa.

Budgetary shortfalls also made the establishment of large game reserves less and less attractive. The African colonies were, by and large, a drain on European treasuries, all the more

so after the Great Depression hit in 1929. Revenue from game licenses and export duties offered a welcome source of colonial income, but the sums rarely accounted for more than ten percent of the total budget intake and a portion of that income had to be used to cover game warden salaries and other park-related expenditures. Chronically short of cash, many administrators augmented their colonial budgets by doing what the 1900 London Convention forbade from doing—selling tusks, feathers, and skins—often using the same fencing routes and Afro-Arab middlemen that run-of-the-mill poachers relied on. Italian administrators were most notorious for doing this, but there were multiple scandals in the British colonies as well—including several that directly implicated the game wardens themselves.<sup>19</sup>

Admitting defeat, British conservationists sent R.W. G. Hingston to Africa in 1930 to work out a different method for preserving Africa's wildlife. Hingston concluded that the convention had failed, first and foremost, because the ongoing usurpation of wildlife habitat for agricultural development had put farmers in increasing conflict with wild animals; and secondarily, because the tsetse menace had turned many colonials against any and all game-preservation policies. He argued for a policy of "hard" segregation. "Man, once he cultivates an acre of soil, will not tolerate wild animals in his vicinity," he wrote. As long as humans and animals were forced to live side by side, he argued, there would be demands to exterminate the local wildlife: "In one place the complaint will be that the crops are ruined, in another that the wild life kills domesticated stock, in another that it terrorizes the district, in another that it spreads disease." Humans and animals, he concluded, needed to be separated into "two completely distinct compartments." Animals "must be segregated in a sanctuary."<sup>20</sup>

Convinced by Hingston, the British government convoked a second international conference that produced the 1933 London Convention. This time, preparations for the

conference were placed in the hands of the Economic Advisory Council, a committee of high-ranking British officials established in 1930 to bring Britain out of the Depression. The Council relegated hunting to the sidelines and concentrated instead on creating a system of “national parks” and “strict nature reserves” that would not interfere with agricultural expansion or tsetse-control programs (which often amounted to one and the same thing, as the Council intended to eliminate the underbrush favored by the tsetse fly through the spread of irrigated farming). What this meant in practical terms was the “concentration of fauna in specially constituted sanctuaries” as far removed from human settlements as feasible, following the principle of “segregation” (also sometimes called “apartheid” in the reports). Gone was the notion of game reserves as “breeding grounds” as envisaged by the 1900 London Convention, or even of maintaining connectivity between the reserves to maximize the migration routes. Gone too was the idea of maintaining sustainable game cropping throughout Africa, or even of keeping animal populations at pre-1900 levels throughout the continent. The focus was now solely on the establishment of “mega-zoos”—tightly controlled and highly artificial regions where animals would be put on display for today’s tourists and preserved for future generations.

This new view of a reserve as “zoo” left European and colonial administrators free to place the reserves wherever it suited them best, with little attention paid to the migratory patterns of African wildlife: political and economic needs, not ecology, was to determine the border lines. An “ideal” national park or game reserve, from this perspective, was one that was located on land that was economically “useless,” either because it was disease-infested, or devoid of minerals and other resources, or unsuitable for agriculture, or otherwise ill-adapted for white settlement. Whereas the policy of “soft” segregation had left most black communities intact (except where tsetse-control administrators had forced their removal), the “hard” segregation

policy mandated the partial or full displacement of black populations living in the regions that were to be designated parks and reserves.

Few asked whether game animals were actually plentiful in these locations, or whether there were sufficient food and water resources within the park boundaries, or even whether they were large enough to sustain the migratory patterns of the animals that were allegedly being protected. The end result was a hodgepodge of poorly placed, ill-designed parks that offered only part-time protection for migrating herds. When Bernard Grzimek (director of the Frankfurt Zoo), for instance, undertook the first comprehensive aerial survey of animal populations in the famed Serengeti Park in the 1950s, he discovered that there was almost no congruity between the park's borders and animal migration routes: at no time of the year were all of the Serengeti herds inside the park, but at certain times of the year there were virtually none.<sup>21</sup> With rare exception (such as the Great Limpopo Transfrontier Park, which straddles South Africa, Mozambique, and Zimbabwe, and the Selous Game Reserve in Tanzania), other parks faced similar problems: discrete dots on the landscape, they offered few connective pathways and little protection to their herds.

### **Antarctica as a Margarine Factory**

Modern commercial whaling began in the 1860s with the invention of the grenade-tipped harpoon, the "accumulator" (a winch-and-rope system that functions much like a fishing rod), and the air-compression pump (which kept the whale carcasses afloat for easy processing). It thrived until the 1960s, when whale populations plummeted to the point of commercial extinction, that is, when they could no longer be hunted profitably. During this entire time, Norway was by far the greatest whaling power in the world, followed distantly by Great Britain, Japan, Germany, the Soviet Union, and a handful of other countries.<sup>22</sup>

So thoroughly did Norway dominate the industry that all previous hunting techniques came to be known as “old whaling” and Norwegian ones as “modern whaling.” The province of Vestfold—Norway’s most populated region and busiest shipping center—emerged as the center of the world whaling industry. Its three main ports—Sandefjord, Tønsberg, and Lavik—generated much of the capital, and produced most of the ships and crews, for whaling expeditions worldwide, even those flying under foreign flags. (As late as 1931, all but 142 of the 10,691 whalers in the Antarctic were from Norway, of which nearly 8000 came from Vestfold alone.)<sup>23</sup> Norwegians pioneered in the development of the modern floating factory, the high-pressure boiler, the stern slipway. They were the first to fully exploit the Arctic hunting grounds, the first to open up the Antarctic, and the first to engage in “ice” (modern pelagic) whaling. They also dominated the world whaling cartel, the Association of Whaling Companies, founded in 1929 and known informally as the “Sellers’ Pool.” Headquartered in Sandefjord, it had 32 charter members (25 Norwegian companies, 4 British, 2 Danish, and 1 Argentinean), representing about 80 percent of world whale-oil production.<sup>24</sup>

Although cetaceans can be turned into a variety of products—baleen “plastic,” meat, fertilizer, among them—most whales were killed for their oil. Baleen whales (which includes all of the great whales except the sperm whale) produce an edible oil that can be extracted from the animal’s blubber, tongue, meat, bones, and internal organs. It is all but indistinguishable from other edible fats such as canola, soy, copra (coconut), and linseed except in one respect: it can be stored for over five years without turning rancid. Most importantly, oleic acid, the most common fatty acid found in whale oil, can be easily turned into margarine by the process of hydrogenation.<sup>25</sup>

By 1930, the world's whale-oil trade was almost entirely concentrated in the hands of just three major margarine producers—Lever Bros., De Nordiske Fabriker, and Margarine Unie—bound together in the British-based cartel known formally as the Unilever Group and informally as the “Sellers’ Pool.” Unilever turned almost all of the world's whale oil (around 85 percent) into margarine and lard, nearly all of which landed on the dinner tables of Europe. The consortium's main reason for existence was to ensure that the price of whale oil remained at or below the price of palm, coconut, linseed, and other equivalent edible oils and fats. Whale oil was especially valuable as a trump: it could be stored for long periods of time and then dumped on the market whenever plant-oil producers hiked the price of their products beyond what Unilever was willing to pay.<sup>26</sup>

Modern whaling was essentially an exterminationist industry. The Basques, the world's first great commercial whalers, snagged about 500 whales per year between 1530 and 1610.<sup>27</sup> The Dutch, the foremost whalers of the seventeenth century, killed an average of 800 whales per year between 1670 and 1719.<sup>28</sup> By contrast, Antarctic whalers over 30,000 whales annually during the 1930s (including an all-time record high of 50,769 in 1937/38)—more than ten-fold higher than the sustainable kill rate for these cetaceans.<sup>29</sup> The type of species that could be hunted successfully also increased dramatically after the 1860s. Only five species of great whales—rights, bowheads, humpbacks, grays, and sperms—were hunted to any significant extent in the pre-modern period; these were, for the most part, slow-moving and coast-hugging species that could be readily snagged. With the advent of Norwegian-style whaling, five more whale species (all fast-moving and elusive rorquals) became targets: blues, fins, seis, Bryde's, and minkes.

Few industries have left a more tell-tale path of destruction than in their wake than whaling. The Norwegians and their competitors first depleted whale stocks in the eastern Atlantic and Arctic regions (Finnmark, Iceland, Faroes, Shetlands, the Hebrides, Spitsbergen, Ireland), then moved to the western Arctic and Atlantic (Newfoundland, Labrador), and from there to the Pacific (British Columbia, Alaska). They then ventured to the coastlines of Africa (Mozambique, South Africa, Angola, Gabon, and Madagascar), South America (Chile, Argentina, South Georgia Island), Australia, and New Zealand. Finally, in the 1920s, they discovered the Antarctic convergence (home to *Euphausia superba*, a shrimplike crustacean that the Norwegians called “krill”), the largest whale feeding grounds in the world. There they anchored themselves for the next forty years—a flotilla of factory ships, whale catchers, fuel ships, and helicopters—until they had depleted this population of whales to the point of commercial extinction.

As in Africa, the first attempts to control the whaling industry were localized and ineffective. In 1881, Norway banned all whaling within one mile of its coastline, and imposed a total ban on whaling in the Varanger fjord during the cod season. It subsequently banned whaling entirely in the territorial waters of Finnmark, after a series of bad fishing years there. Similarly, in 1886 Iceland established a closed season on whaling within its territorial waters between May and October, and banned whaling entirely in the vicinity of herring fisheries. In 1915, it also imposed a ten-year ban on all whaling within its territorial waters (not to protect the whales but to keep the Norwegians out while it built a domestic whaling industry). Likewise, in 1902 the Danish government banned whaling around the Faroes Islands to all except those who flew the Danish flag.<sup>30</sup> The British government, meanwhile, introduced two major innovations to whale management: a) a fee-based licensing system, designed to discourage overfishing in any

given hunting ground; and b) a full-use requirement, designed to eliminate wastage and thus reduce the stench of rotting carcasses (one of the chief complaints of fishermen).<sup>31</sup>

The advent of Antarctic ice whaling in the mid-1920s undermined these early attempts at a country-by-country approach to whale protection. Most whaling enterprises now touched land only on two occasions—when they delivered their oil to Unilever and when they docked their fleets at Vestfold—and were thus able to circumvent most land-based regulations. This meant, in effect, that there were only two countries in a position to regulate the industry: Norway, the greatest whaling nation and home to the Association of Whaling Companies, or “Sellers’ Pool”; and Great Britain, the second-greatest whaling power and home to the Unilever Group, or “Buyers’ Pool.”<sup>32</sup> The various treaties, protocols, and bilateral agreements that emerged between 1931 and 1946 reflected the interplay of power and negotiation among these two countries and the institutions they represented.

The Norwegian government took the first step with passage of the 1929 Norwegian Whaling Act, which subsequently provided nearly all the verbiage for the 1931 Convention for the Regulation of Whaling (hereafter 1931 Geneva Convention). The focus was mostly on wastage, not kill rates. Companies were forbidden to kill more whales than their floating factories could process before the carcass began to rot. Factory ships had to be outfitted with boilers and other equipment needed to render all parts of the whale (including the head, jaw, flank, tongue, and tail) into oil, and to process other byproducts such as animal feed and fertilizer. The killing of right whales was forbidden outright, as was the killing of all calves, females with calves, blue whales under 60 feet long, and fin whales under 50 feet. The treaty did not, however, cap the annual kill rate, limit oil production, regulate the number of factory ships, or establish a licensing system for ice whaling.<sup>33</sup>

Even before the 1931 Geneva Convention was ratified, the Sellers' Pool began to rethink its approach to whale management. The reason for this was a temporary glut in the whale-oil market that threatened them with ruination. A record 40,201 whales were slaughtered during the 1930/31 season, well above the demand rate.<sup>34</sup> Prices tumbled from £30 per ton to £11, a rate too low for profitability. The Sellers' Pool responded by cancelling the 1931/32 whaling season, and then by setting a series of informal Production Agreements among themselves for the next few seasons (1932/33 to 1936/37), in the hope that a production cap would prop up prices.<sup>35</sup>

To verify compliance, the Sellers' Pool concocted the Blue Whale Unit (BWU), a notorious conversion standard that would remain in use until it was finally banned by international treaty in 1974. The BWU was based on the fact that the average blue whale produced 110 barrels (4400 gallons) of oil, roughly twice as much oil as a fin whale, two-and-a-half times as much as a humpback, and six times more than a sei whale. The BWU conversion formula was thus 1:2:2.5:6. The beauty of the system, from the whalers' vantage point, was that a catch quota could be set each year without reference to the whale species. If the total quota for any given year was set at 20,000 BWU, then whalers were free to kill 20,000 blue whales, or 40,000 fins, or 50,000 humpbacks, or 120,000 seis, or any combination thereof that totaled 20,000 BWU. The problem with the BWU system, from the vantage point of conservation, was that it was keyed to the market price of oil, not to the reproduction rates of whales. The stock of whale species in the world's oceans did not conform to the 1:2:2.5:6 formula; there were not, in other words, two fins for every blue in the world's oceans, any more than there were two-and-a-half humpbacks or six seis for every blue. Also, the BWU put a premium on size, since a company could fill its quota with less effort by taking the largest species. Predictably, from that moment on whaling enterprises targeted blues first, fins next, humpbacks next, and seis last,

moving down the size chart as each of the larger species became too rare to hunt commercially. All that the BWU system really accomplished was to put a bull's-eye on the largest available species until it was no longer plentiful, ultimately a self-defeating strategy.<sup>36</sup>

Even for the whaling industry itself, the BWU system only worked properly in conjunction with a yearly side agreement that imposed enterprise-by-enterprise production quotas. When these side agreements lapsed in 1936, enterprises were left with a strong incentive to construct larger factory ships and faster catcher boats in order to capture the largest possible share of the total annual catch before the BWU limit was reached. This, in turn, made it all the more difficult to adjust the BWU limits downward in light of conservation needs: a high annual quota was necessary in order to guarantee that whaling companies could recoup the huge investments they made in their flotillas. The BWU system, in a nutshell, promoted an “arms race,” not conservation.

While the Association of Whaling Companies was busy establishing the BWU system to prop up the price of oil, the Unilever Group (Buyers' Pool) was doing what it could to drive prices downward. Unilever was a tightknit consortium of margarine producers with a major trump card: it could switch to coconut, palm, peanut, or soy oil if the price of whale oil rose beyond what it considered to be an acceptable price. Unilever's position was further strengthened by its connections to H. K. Salvesen, Britain's largest whaling enterprise. Not only was Salvesen one of the few whaling enterprises that did not belong to the Sellers' Pool, it sent its fleet to the Antarctic during the 1931/32 season (while the entire Norwegian fleet stayed home) and then used its catch from that year to flood the market whenever the price began to climb. With other edible oils available, and with Salvesen acting as a strategic reserve, Unilever

was able to keep the price just under £14 per ton, well below £32 per ton that the whaling enterprises had enjoyed in the 1920s and just barely above the break-even costs.<sup>37</sup>

The tug-of-war between the Sellers' and Buyers' Pools, of course, had nothing to do with whale protection and everything to do with the protection of narrow economic interests. In a free market, the price may well have fallen below the cost of production, and many whaling companies have gone belly up before the price rose anew. More plant-based oils would then have reached consumers, and more whales would have remained in the ocean to reproduce. However, the two whaling pools (and the two governments behind them) conspired to keep the industry sheltered from market-based competition, each for its own purposes. The Sellers' Pool wanted to keep its operations going full tilt for as long as possible each season—even at break-even oil prices—because ships cost money to maintain regardless of whether they were out to sea or not. The Buyers' Pool wanted an array of different edible oils at its disposal, so as to keep all oils at an acceptable price, whale oil being particularly coveted for its long shelf life. “In years when the prices are low and when we know that whale oil can be substituted by vegetable oils, it seems to the biologists that it is too bad that so many whales should be killed,” lamented Birger Bergersen, a Norwegian biologist and later the first Chair of the International Whaling Commission, at the failed whale conference of May 1938. “It is easy to get plenty of new trees in the tropical areas, but it is impossible to renew the stock of whales when it is overtaxed.”<sup>38</sup>

World War II stymied all governmental efforts to overhaul the 1931 Geneva Convention, but the war did not dampen the determination of the Buyers' and Sellers' Pools to evade regulation. If anything, the worldwide fat shortage at the end of the war strengthened their hands. When the major whaling powers met anew in 1946 to negotiate the International Convention for the Regulation of Whaling (hereafter “1946 Washington Convention”), they used

their influence over the Norwegian and British governments to reduce or eliminate as many conservationist safeguards as possible. Not only did the 1946 Washington Convention adopt BWU system, but it set the annual cap at 16,000 BWU, far above the sustainable level. Ostensibly, Birger Bergersen (Norway), Remington Kellogg (U.S.) and N. A. Mackintosh (Great Britain) set the 16,000 figure on scientific grounds, but there is indirect evidence in the documents to suggest that the guiding hand was Unilever.

That the 1946 Washington Convention did nothing to halt the killing spree can be seen from the official whaling statistics. Between 1905 and 1965, roughly 1.25 million whales were slain in the Antarctic. Just over half of these were killed in the 43-year period between 1905 and 1948. The rest were killed in the 17-year period between 1948 and 1965, while the treaty was in full effect and the International Whaling Commission fully operating. During this time span, whaling companies managed to deplete most of the remaining stocks of great whales almost as quickly as they would have without a treaty. By the 1960s, blues and fins stood on the brink of extinction, while Bryde's and seis were endangered. Only the minke, the smallest rorqual, remained plentiful worldwide. As the stocks dwindled, so did the number of whaling nations. Great Britain largely abandoned whaling in 1963, the Netherlands in 1964, Norway in 1968. Others followed suit and by the 1970s there were only two major players left in the field—the Soviet Union and Japan—both increasingly forced to hunt the minke, once considered too small to be worth the chase.<sup>39</sup>

## **Conclusion**

Obviously, these short sketches are inadequate to explore in any comprehensive manner the hunting-agriculture-conservation nexus. But I do hope they help illustrate and contextualize

some of the problems that contemporary conservationists and statesmen face as they attempt to address long-standing conservation problems and launch new diplomatic initiatives.

Segregation was, in many ways, the logical outcome of Europe's colonial politics and economic priorities. Wherever the Europeans established themselves in Africa—in the southern regions first and then elsewhere—they simultaneously exploited the animal resources around them and carved out tracts of land for cultivation and pasture. These dual endeavors could not be sustained forever, for they led both to a gradual decline in animal numbers and to a reduction in animal habitat. The diplomats that attended the 1900 London conference, especially Wissmann and Salisbury, thought they could resolve these problems through “soft” segregation: the establishment of large and numerous game reserves, something akin to a network of fully protected and quasi-protected areas that would serve as breeding and feeding grounds for African fauna while at the same time serving as the foundation for “game cropping.”

To be sure, the 1900 London Convention was more a “colonial” than a “conservationist” document. It declared a dozen animals as “vermin”—including lions, leopards, hyenas, otters, baboons, birds of prey, crocodiles, and poisonous snakes—and called on colonial administrators to “reduce the numbers within sufficient limits” (“exterminate” was the original wording, but Edwin Ray Lankester, director of the British Natural History Museum, convinced the delegates that this would be foolish).<sup>40</sup> It demonized black Africans for using foot snares, pits, traps, weighted harpoons, and poison-tipped arrows, on the grounds that these weapons were less humane than high-powered rifles. It established no procedures for protecting elephant herds, beyond the obvious one of setting minimum tusk sizes. It gave no protection to the marabou, even though this bird was threatened with extinction because its plumage was used to decorate Parisian hats. The delegates even refused to promote ostrich farming over ostrich hunting, even

though South Africa had a profitable and sustainable ostrich-farm industry. Still, for all its peculiarities, it did recognize that nature conservation was a transregional issue that required the support of all the major powers; that some restrictions would have to be placed on hunting for game species to survive; and that vast swaths of land would have to be partially or entirely off limits to economic growth if the whole panoply of species were to be preserved.

That the more forward-looking features of the 1900 treaty did not come to fruition was partly a matter of happenstance and partly a matter of design. The happenstance was World War I, which undermined the spirit of cooperation among the colonial powers. The design was the letter-writing campaigns of white farmers and plantation owners, which transformed a debate over wildlife protection into a debate over land use. The wild card was trypanosomiasis, which made it politically difficult for colonial administrators to implement the terms of the 1900 accord without being accused of putting their citizens at risk. By 1933, British conservationists were eager to find a solution—even a less-than-ideal one—as long as it held out the promise of offering long-term protection to the animals by reducing the colonists' hostility to game regulations. Apartheidism had a price, however. Africa's array of national parks and reserves—of which there are now over 300—are scattered across the continent on non-contiguous territory rather than grouped together in overlapping clusters. Black Africans lost some of their living and hunting spaces, creating resentment over the “White Man's Parks” and less commitment to their preservation. Artificial watering holes had to be dug and high fences had to be erected for the parks to function. Animals too had to be shuffled about in order to create more biodiversity than had existed in these tracts before they became parks and reserves.

The whaling treaties posed a different but in some ways interrelated set of problems. These treaties would almost certainly have been easier to implement if one or more governments

actually controlled Antarctica, or if the oceans around it were under the jurisdiction of the League of Nations or United Nations. But Antarctica was a continent without a people and the southern seas belonged to no one, so it was relatively easy for whaling enterprises to circumvent what few restrictions there were. The International Whaling Commission itself was mostly just a lapdog of the whaling industry. It allowed the hunting season to begin too early (before whales had gorged themselves to maximum weight and blubber). It left the annual BWU quota at 16,000 long after its own scientists had demonstrated beyond a shadow of a doubt that it was causing a precipitous drop in whale stocks. And it repeatedly refused to establish breeding and feeding sanctuaries in areas that were still untouched by whaling enterprises.

Ultimately, however, the failure to regulate the whaling industry had as much to do with the decisions of the American, British, and Norwegian governments as it did with the “global commons” problem and the BWU system. All three powers were fully aware that the fat industry held the key to whale conservation. In fact, in the early negotiations over the 1946 Washington Convention, the U.S. delegates took the position whale conservation should be placed under the jurisdiction of the newly created United Nation’s Food and Agriculture Organisation on the grounds that farming and fishing were among its mandates. Drawing on American conservationist literature (Leopold was not mentioned but his influence was clearly visible), they pointed out that it would be easier to regulate whaling on the demand side (whale-oil production) than on the supply side (whaling enterprises). The Norwegian and British delegates, however, argued that whaling was essentially a hunting industry, best regulated through a free-standing commission outside the scope of the United Nations. The Americans, not wanting to champion “coercive economic measures” without the support of the two major whaling powers, fatefully acquiesced.<sup>41</sup>

Back in 1851, Herman Melville predicted that the whaling story would end as a tragic romance: “The moot point is, whether Leviathan can long endure so wide a chase, and so remorseless a havoc; whether he must not at last be exterminated from the waters, and the last whale, like the last man, smoke his last pipe, and then himself evaporate in the final puff.”<sup>42</sup> He would have been disappointed to learn that the story ended as a tragic farce, and that the last whale smoked its last pipe and then evaporated in the margarine vats of Unilever.

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<sup>1</sup>The fields of global nature conservation and environmental law are still in their infancy. Among the surveys that handle international animal protection are Robert Boardman, *International Organization and the Conservation of Nature* (Bloomington: Indiana University Press, 1981); Simon Lyster, *International Wildlife Law: An Analysis of International Treaties Concerned with the Conservation of Wildlife* (Cambridge: Grotius Publications, 1985); John M. MacKenzie, *The Empire of Nature* (Manchester: University of Manchester Press, 1988); John McCormick, *Reclaiming Paradise: The Global Environmental Movement*. Bloomington: Indiana University Press, 1989); Philippe Sands, ed. *Greening International Law* (New York: New Press, 1994); and Kurkpatrick Dorsey, *The Dawn of Conservation Diplomacy: U.S.-Canadian Wildlife Protection Treaties in the Progressive Era* (Seattle: University of Washington Press, 1998).

<sup>2</sup>Aldo Leopold, *Game Management* (New York: Charles Scribner's Sons, 1933), 3, 21. On Aldo Leopold, see especially Curt Meine, *Aldo Leopold: His Life and Work* (Madison: University of Wisconsin Press, 1988); and Susan Flader and J. Baird Callicott, eds., *The River of the Mother of God and Other Essays* (Madison: University of Wisconsin Press, 1991).

<sup>3</sup>Leopold, *Game Management*, 4–5.

<sup>4</sup>The complete texts of nearly every international environmental treaty signed since 1750 is available in Bernd Rüster and Bruno Simma, eds., *International Protection of the Environment: Treaties and Related Documents* (Dobbs Ferry, New York: Oceana Publications, 1975); and Michael R. Molitor, ed., *International Environmental Law: Primary Materials* (Deventer, Netherlands: Kluwer, 1991). The Rüster and Simma series covers the period up to 1975, Molitor the post-1975 period.

<sup>5</sup>Roland Oliver and Michael Crowder, eds., *Cambridge Encyclopedia of Africa* (Cambridge: Cambridge University Press, 1981), 311.

<sup>6</sup>Both treaties have now been superseded by the 1968 African Convention on the Conservation of Nature and Natural Resources, but the new treaty is largely a reiteration of the 1933 accord. On African wildlife and conservation, see especially Philip D. Curtin, *The Image of Africa* (Madison: University of Wisconsin Press, 1973); David Anderson and Richard Grove, eds. *Conservation in Africa: Peoples, Policies and Practice* (Cambridge: Cambridge University Press, 1987); John M. MacKenzie, *The Empire of Nature*; John M. MacKenzie, ed., *Imperialism and the Natural World* (Manchester: Manchester University Press, 1990); Jonathan S. Adams and Thomas O. McShane, *The Myth of Wild Africa: Conservation Without Illusion* (New York: W. W. Norton, 1992); Raymond Bonner, *At the Hand of Man: Peril and Hope for Africa's Wildlife* (New York: Knopf, 1993); Melissa Leach and Robin Mearns, eds. *The Lie of the Land: Challenging the Received Wisdom on the African Environment* (Portsmouth: Heinemann, 1996); James McCann, *Green Land, Brown Land, Black Land* (Portsmouth: Heinemann, 1999); and Terence Ranger, *Voices from the Rocks: Nature, Culture, and History in the Matopos Hills of Zimbabwe* (Oxford: James Currey, 1999). For region-specific analyses, see especially Stuart Marks, *Imperial Lion: Human Dimensions of Wildlife Management in Central Africa* (Boulder: Westview Press, 1984); Jane Carruthers, *The Kruger National Park: A Social and Political*

*History* (Pietermaritzburg: University of Natal Press, 1995); Gregory Maddox, James Giblin, and Isaria Kimambo, eds. *Custodians of the Land: Ecology & Culture in the History of Tanzania* (Athens: Ohio University Press, 1996); and Edward I. Steinhart, *Black Poachers, White Hunters: A Social History of Hunting in Colonial Kenya* (Athens: Ohio University Press, 2006).

<sup>7</sup>On South African game preservation, see especially John A. Pringle, *The Conservationists and the Killers: The Story of Game Protection and the Wildlife Society of Southern Africa* (Cape Town: T. V. Bulpin, 1982); and Jane Carruthers, “Game Protection in the Transvaal 1846-1926” (PhD diss., University of Cape Town, 1988).

<sup>8</sup>Letter from Marquess of Salisbury to Hardinge (East African Protectorate) and Berkeley (Uganda Protectorate), May 27, 1896, in the United Kingdom, Parliamentary Papers, *Correspondence Relating to the Preservation of Wild Animals in Africa*, Cd. 3189 (1906), 1.

<sup>9</sup>On Hermann von Wissmann, see Bernhard Gissibl, “German Colonialism and the Beginnings of International Wildlife Preservation in Africa,” *GHI-Bulletin, Supplement 3* (2006), 121-43. See also Kolonialamt, *Jagd und Wildschutz in den deutschen Kolonien* (Jena: G. Fischer, 1913).

<sup>10</sup>Letter from Sir F. Lascelles to the Marquess of Salisbury, January 2, 1897, in *Further Correspondence respecting East Africa*, Part XLVIII/6951 (1897), 4.

<sup>11</sup>Letter from Arthur Hardinge to Marquess of Salisbury, February 19, 1900, in *Further Correspondence respecting East Africa*, Part LX/7404 (1900), 119.

<sup>12</sup>Three documents are central to the discussion over the convention: 1) the joint British-German “Draft of Suggested Bases for Deliberations of an International Conference for the Protection of Wild Animals, Birds, and Fishes in Africa” (British-German Draft); 2) the British Foreign Office’s “Avant-Projet d’Acte Général” (Avant-Projet); and 3) the London Convention text itself, signed on May 19, 1900. The secondary literature on this treaty is sparse. See especially MacKenzie, *The Empire of Nature*, 201-24; and Sherman Strong Hayden, *The International Protection of Wild Life* (New York: Columbia University Press, 1942), 36-42.

<sup>13</sup>Quotes from Schedules of the 1900 London Convention. The texts of the new game laws can be found in various parts of *Further Correspondence Relating to the Preservation of Wild Animals in Africa*, Cd. 4472. Many of the ordinances refer specifically to the stipulations in the London Convention. For a comprehensive report on the game reserves, see C. W. Hobley, “The London Convention of 1900,” *Journal of the Society for the Preservation of the Fauna of the Empire* NS Part XX (August 1933): 33-49.

<sup>14</sup>Quotes from Schedules of the 1900 London Convention.

<sup>15</sup>The parks and reserves all listed country-by-country in *African Game Protection: An Outline of the Existing Game Reserves and National Parks of Africa* (Cambridge: American Committee for International Wild Life Protection, 1933). The list was updated in *The London Convention for the Protection of African Fauna and Flora with Map and Notes on Existing African Parks and Reserves* (Cambridge: American Committee for International Wild Life Protection, 1935).

<sup>16</sup>See especially *Correspondence Relating to the Preservation of Wild Animals in Africa*, Cd. 3189 (1906) and *Further Correspondence Relating to the Preservation of Wild Animals in Africa*, Cd.4472 (1909), 5136 (1910), and 5775 (1911).

<sup>17</sup>On the disease, see John Ford, “African Trypanosomiasis: An Assessment of the Tsetse-fly Problem Today,” in *African Environment: Problems and Perspectives*, edited by Paul Richards (London: International African Institute, 1975), 67-72; John Ford, *The Role of the Trypanosomiasis in African Ecology: A Study of the Tsetse Fly Problem* (Oxford: Clarendon Press, 1971); James Giblin, “Trypanosomiasis Control in African History: An Evaded Issue?,” *Journal of African History* 31, no. 1 (1990): 59-80. On the impact of the disease on African society, see Helge Kjekshus, *Ecology Control and Economic Development in East African History: The Case of Tanganyika, 1850-1950* (London: Heinemann, 1977); Leroy Vail, “Ecology and History: The Example of Eastern Zambia,” *Journal of Southern African Studies* 3, no. 2 (1977): 129-55; John McCracken, “Colonialism, Capitalism and the Ecological Crisis in Malawi: A Reassessment,” in David Anderson and Richard Grove, eds. *Conservation in Africa: People, Policies and Practice* (Cambridge: Cambridge University Press, 1987), 63-77; and Kirk Arden Hoppe, *Lords of the Fly: Sleeping Sickness Control in British East Africa, 1900-1960* (Westport, Conn.: Praeger, 2003).

<sup>18</sup>Cited in John M. MacKenzie, “Experts and Amateurs: Tsetse, Nagana and Sleeping Sickness in East and Central Africa,” in John M. MacKenzie, *Imperialism and the Natural World*, 201.

<sup>19</sup>R. W. G. Hingston, “Proposed National Parks for Africa: A Paper Read at the Evening Meeting of the Society on 9 March 1931,” *The Geographical Journal* 77, no. 5 (May 1931): 402-06.

<sup>20</sup>“Illegal Killing of Elephants and Rhinoceros, with Special Reference to the Italian Boundary of Kenya. Report of the Kenya Game Dept.” PRO FO 371/11948 (1927). For a complete analysis of British-Italian problems over ivory and horns, see A. T. A. Ritchie’s report, “Ivory Trade and Export to Italian Somaliland (April 14, 1931),” PRO FO 371/15395. For a complete analysis, see Alastair Graham, *The Gardeners of Eden* (London: George Allen and Unwin, 1973).

<sup>21</sup>Bernard Grzimek and Michael Grzimek, *Serengeti Shall not Die* (New York: E. P. Dutton, 1961), 309-12. Among other things, Grzimek undertook a sophisticated aerial count of the Serengeti animals. He tracked sixteen mammal species and one bird (the ostrich), and concluded that there were a total of 366,980 animals in Serengeti (not the 1 million previously assumed). By far the most numerous were Thomson’s and Grant’s gazelles (194,654 together), the wildebeest (99,481), and Burchell’s zebra (57,199). Like many others, Grzimek showed little sympathy for the rights of local Africans and he undertook this survey in order to keep the park from being reduced in size at a time when the British government was under pressure from the Masai, who wanted to regain some of their lost grazing space.

<sup>22</sup>On the history of world whaling, see especially J. N. Tønnessen and A. O. Johnsen, *The History of Modern Whaling* (Berkeley: University of California Press, 1982); Richard Ellis, *Men and Whales* (New York: Alfred A. Knopf, 1991); and Daniel Francis, *A History of World Whaling* (Harmondsworth: Penguin, 1990). See also J. T. Jenkins, *A History of the Whale Fisheries from the Basque Fisheries of the Tenth Century to the Hunting of the Finner Whale at*

*the Present Date* (Port Washington, New York: Kennikat Press, 1921); R. B. Robertson, *Of Whales and Men* (New York: Alfred A. Knopf, 1961); George L. Small, *The Blue Whale* (New York: Columbia University Press, 1971); K. Radway Allen, *Conservation and Management of Whales* (Seattle: University of Washington Press, 1980); Patricia Birnie, comp. and ed., *International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching* (New York: Oceana Publications, 1985); Jeremy Cherfas, *The Hunting of the Whale* (London: Penguin, 1989); Peter J. Stoett, *The International Politics of Whaling* (Vancouver: University of British Columbia Press, 1997); Granville Allen Mawer, *Ahab's Trade: The Saga of South Seas Whaling* (New York: St. Martin's Press, 1999);

<sup>23</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 386.

<sup>24</sup>*Ibid.*, 25, 39, 69.

<sup>25</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 367.

<sup>26</sup>Jackson, *The British Whaling Trade*, 3–154.

<sup>27</sup>Ellis, *Men and Whales*, 47.

<sup>28</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 68.

<sup>29</sup>Small, *The Blue Whale*, 11-12; and Tønnessen and Johnsen, *History of Modern Whaling*, 313.

<sup>30</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 61–67, 81–85, 304–05.

<sup>31</sup>*Ibid.*, 90, 104, 109.

<sup>32</sup>The League of Nations, which produced the scientifically sound “Report on the Exploitation of the Products of the Sea” under the direction of Jose Leon Suarès, was simply ignored by Norway and Britain.

<sup>33</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 364–66; Small, *The Blue Whale*, 145–52.

<sup>34</sup>Karl Brandt, *Whale Oil: An Economic Analysis* (Stanford: Food Research Institute, 1940), 61; and Tønnessen and Johnsen, *The History of Modern Whaling*, 385.

<sup>35</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 386–94.

<sup>36</sup>Birnie, *International Regulation of Whaling*, 120–24.

<sup>37</sup>Tønnessen and Johnsen, *The History of Modern Whaling*, 370. See also “Note of an Interview with Mr. F. D’Arcy Cooper, chairman of Uni-Lever Ltd., (19 January 1931)” PRO FO 371/15671 (1931) and “Preliminary Whaling Conference, Oslo, May 1938,” PRO FO 371/22273/187067 (1938).

<sup>38</sup>“Preliminary Whaling Conference, Oslo, May 1938,” PRO FO 371/22273/187067 (1938).

<sup>39</sup>Jackson, *The British Whaling Trade*, 239.

<sup>40</sup>“Procès-Verbal de la Cinquième Séance tenue le 1er Mai 1900,” in *Further Correspondence Relating to the Preservation of Wild Animals in Africa*, Part II/7822, 154.

<sup>41</sup>See especially the “Minutes of the Fourteenth Session, Saturday, November 30, 1906,” NARA RG 43, Records Relating to International Whaling Conferences, 1936-1949, Box 8.

<sup>42</sup>Hermann Melville, *Moby Dick; or The Whale* (Indianapolis: Bobbs-Merrill, 1964 [1851]), 586.

Unfortunately, until the twentieth century, writers like Thoreau had little popular audience. The ideology and practice of manifest destiny was quite strong in all parts of the country. The conservation movement in the United States continued to grow in the early part of the twentieth century. Some individuals like John Muir realized that mere preservation of wilderness areas was not enough. Agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States, is hereby prohibited. All such prohibited mammals, birds, fish (including mollusks and crustacea), amphibians, and reptiles, and the eggs or offspring therefrom, shall be promptly exported or destroyed.

Best Practices in Sustainable Hunting – A Guide to Best Practices from Around the World, pp. 5–11. Published by the CIC – International Council for Game and Wildlife Conservation. CIC – International Council for Game and Wildlife Conservation Administrative Office, P.O. Box 82, H-2092 Budakeszi, Hungary Phone: +36 23 453 830, Fax: +36 23 453 832 E-mail: office@cic-wildlife.org, Website: www.cic-wildlife.org. Cover photos: Horst Niesters, Eugène Reiter, STEP Digital cartography: Mike Shand. Hunting as a Tool for Wildlife Conservation – the Case of Sheep Hunting in Mexico, Raymond Lee. 53 CIC – International Council for Game and Wildlife Conservation. 59. During the twentieth century, there arose a system of wildlife conservation in North America, with an infrastructure supported by a unique environmental ethic so effective and exemplary, that it defied political and historical expectations [196]. Species benefiting from habitat disturbance (including agriculture) and urban refugia. Declining hunter numbers, hunter reluctance to harvest females and a counter-productive, protectionist attitude toward wildlife have strengthened these patterns.