

Research Article

# Peaceful Coexistence in Compassionate Conservation: A Policy Discourse Analysis

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## Abstract

The principle of 'peaceful coexistence' in compassionate conservation emphasizes the need to assess and transform conservation practices to resolve conflicts between humans and animals. Zoos and aquariums, intended to foster connections between people and nature, serve as sites of daily interaction among various stakeholders, such as zookeepers, veterinarians, and ethologists. This research aims to examine how South Korea's Aquarium and Zoo Management Act, along with animal welfare, animal rights, and conservation discourse coalitions, critically evaluate and influence the management of captive animals to promote harmonious human-animal coexistence. Using a policy discourse analysis approach, the study investigates how these discourse coalitions frame policy issues and solutions in South Korean zoo management. By analysing semi-structured interviews, media content, and policy documents, this research identifies the need to emphasize a positive welfare state, leverage the influence of animal welfare discourse coalitions, and build networks and regulations that enforce welfare standards for captive animal management, ultimately realizing the principle of peaceful coexistence.

## Keywords

Compassionate Conservation, Animal Welfare, Animal Rights, Policy Discourse, Captive Animal Management

## 1. Introduction

In July 2017, the Seoul Grand Park Zoo (SGPZ) released Geumdeung and Daepo, two Indo-Pacific bottlenose dolphins, into the waters of Jeju Island, where they had been captured twenty years prior. Activists stood alongside dolphin researchers, trainers, ecologists, and news media outlets to cheer as they embarked on a journey to a life of freedom away from decades of animal performances in captivity. This represented the last of three captive dolphin reintroduction projects organized by the South Korean government [27]. Four years earlier, Jedol, a dolphin at the SGPZ since 2009, made national headlines when an investigation by the South Korean coast guard revealed he was one of several wild individuals

trafficked by the Pacific Land theme park aquarium on Jeju Island. Jedol became the face of a massive national campaign calling for the illegally captured dolphins' return to the wild and an end to keeping cetaceans in captivity [36]. After a trial and the relentless efforts of activists, scientists, academics, as well as the support of local politicians and the Seoul Zoo, Jedol was liberated in 2013 [27]. The first successful reintroduction of a bottlenose dolphin in Asia, Jedol's release "elevat(ed) the international status of South Korea in terms of animal welfare" [42]. Following a second successful reintroduction of two more dolphins from the Pacific Land Aquarium in 2015, the SGPZ decided to free Geumdeung and

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Daepo. Moments after their release, many hopeful observers claimed to witness the pair joining a passing pod of wild bottle-nose dolphins. Hearing this, Jeongjun Lee, a film-maker, chuckled skeptically: "People want a fairytale," he said, before heading out on his boat to search for the dolphins. Several years later, researchers still found no trace of them. Some experts stipulate that they may have moved to other waters, while others hold that the pair most likely did not survive [10]. Unlike Jedol, Geumdeung and Daepo had lived too long in captivity to survive in nature.

Geumdeung and Daepo's liberation represented a definitive statement by the SGPZ to establish itself as a modern zoo dedicated to animal welfare and conservation, distancing itself from old practices and entertainment-oriented institutions. Although the sporadic liberation of a few individual dolphins may seem more like an act of animal welfare than one of conservation, zoo officials presented these releases as conservation interventions signaling a new environmental ethic through the engagement of many social actors, eventually leading to the SGPZ's joining the Association of Zoos and Aquariums (AZA) as a member in 2019 [13, 27, 40]. These events and outcomes demonstrate how the SGPZ navigates conservation and animal welfare tradeoffs in policy and practice in a society where discussions of animal welfare, rights, and conservation have only emerged within the last few decades [13]. As South Korean society develops its own conservation, animal welfare, and animal rights discourses, zoological parks have become increasingly contentious. Many animal welfare and rights organizations have lifted their voices to shut down "bad" zoos and strengthen animal welfare standards [11, 20, 26]. Most significantly, Jedol, Geumdeung, and Daepo's releases exemplify cases where welfare motivated conservation action. This seems to fit into the framework of "compassionate conservation," a movement where empathy plays a central role in conservation decision-making [6, 13, 43].

Compassionate conservation's principle of 'peaceful coexistence' demands a critical transformation of conservation practices [43] by "always seek[ing] opportunities to resolve human-animal conflict in ways that do not harm the animals" [5]. The World Wildlife Fund (WWF) and the United Nations Environmental Program (UNEP) define coexistence as "a dynamic state in which the interests and the needs of both humans and wildlife are generally met" [19]. Attaining peaceful coexistence in compassionate conservation requires humans to modify their actions through tolerance and understanding, avoiding aggressive approaches that subdue wildlife. This involves creating compromises between human and non-human stakeholders through actions that minimize tradeoffs between individual animal welfare and the conservation of collective species and ecosystems, where humans are held responsible for animal welfare outcomes [25, 43].

Understanding how to achieve peaceful coexistence involves comprehending the relationships people develop with animals through Human-Animal Interactions (HAI). As part

of their educational mission, zoos claim to play a powerful role in pushing people to reflect on and modify their actions for conservation. Though the concept of coexistence in conservation tends to refer to interactions between humans and free-ranging wild animals, zoos provide cultural and physical landscapes where people interact and connect with live captive wild animals in urban settings [29]. Zoological parks therefore constitute ethnographies of contact, or research sites that foster encounters between a multitude of species and individuals [37]. The pedagogy of modern zoos, which aims to raise awareness of environmental concerns, depends on fostering positive relationships between human visitors and nature through these interactions. Additionally, zookeepers, veterinarians, ethologists, curators, and managers who work in zoos are also entangled in complex relationships with the animals they care for and manage daily. Relationships between those who work at the zoo and the animals they care for are central to how visitors perceive animals and are important for animal welfare. Many modern zoos implicitly adopt a 'duty of care' framework, which implies that, "as guardians of captive animals, we have a moral duty to provide all levels of care to those animals" [29]. 'Duty of care' therefore emphasizes a responsibility towards providing a positive welfare environment for captive wild animals, while adhering to their interests in ways that also fit with the zoological park's overall mission.

This article asks to what extent and how do South Korean discourse coalitions and captive animal management policies critically examine zoo conservation and welfare practices in ways that promote human-animal coexistence in zoological parks? By assessing how these discourse coalitions and policies frame problems and solutions in South Korean zoos, the authors identify dominant discourses and policy silences in the regulation and standardization of animal welfare practices, which represent fundamental ways of reducing animal suffering and meeting animal interests in modern zoos. The authors also identify those actors and coalitions who create discursive shifts in South Korean animal welfare, conservation, and rights discourses, making light of policy silences in the policy discourse and driving the development and transformation of Korean policy in zoo management. Focusing on the Seoul Grand Park Zoo and the Korean Zoo Act, this article organizes the results of this study around the framing of problems and solutions in the policy discourse to secure zoo animal welfare and foster conservation research. Throughout these sections, the authors identify discursive change agents in the animal rights, animal welfare, and conservation discourse coalitions in South Korea who contribute to the realization of peaceful coexistence in South Korean zoos. This research also features comparisons between zoos in France and the United States.

### 1.1. Seoul Grand Park Zoo

Founded in 1984 as an entertainment venue in Gwacheon,

South Korea, the SGPZ has made great strides to improve animal welfare standards and conservation research within the past decade. Like other modern zoos, the SGPZ faces a complex set of trade-offs among conflicting priorities, including conservation, animal welfare, and public education [24]. Modeling itself after the best American zoos of the 1970s, it attempted to catch up to changing international standards [41]. With democratization, which occurred in the 1980s, the growth of the animal rights movement put new pressure on zoo administrators, playing an important role in improving animal care [13, 20]. A recent member of the World Association of Zoos and Aquariums (WAZA) and the AZA, the SGPZ has redefined its mission to become "a healing, empathetic zoo citizens want to visit," [42] with priorities centered on conserving native Korean fauna, environmental education, and ethical animal welfare. Seeking to establish a proper duty of care with respect to individual animals in ways that align with international standards and a legitimate conservation mission, the zoo is also adapting to newly emerging societal discourses in conservation, animal welfare, and animal rights. At the same time, Korean society is changing on the policy level to legally consider these animals and appropriately manage the institutions they are a part of.

## 1.2. Act on the Management of Zoos and Aquariums of South Korea

In 2016, South Korea's National Assembly enacted the "Act on the Management of Zoos and Aquariums" (hereafter referred to as the Korean Zoo Act, or, KZA) with the purpose to "conserve and research wildlife in zoos and aquariums, to provide citizens with correct information on the ecology and habits of wildlife, and to contribute to conserving biodiversity by prescribing matters necessary for registering and managing zoos and aquariums" [28]. Initially, several fatal accidents, including an incident at the SGPZ in 2013 where an Amur tiger mauled a zookeeper to death, spurred the development of this act to enforce care and safety restrictions. Additionally, concerns from animal activists emerged regarding animal neglect, exploitation, and abuse in several Korean zoos, some of which had been involved in selling Asiatic black bears to bear bile factories [26]. The development of a law to regulate zoos therefore originated as a response to calls for resolving human-animal conflict in captive animal facilities. The KZA aimed to establish the first legislative system of its kind to define, regulate, and manage the welfare of captive wild animals in zoos. Enforced in 2017, the law made it mandatory to officially register facilities with 10 species or more than 50 individuals and required these facilities to secure outdoor shelters. However, many took advantage of loopholes in the law to establish private indoor zoos, exempt from regulation [16]. In 2018, the National Assembly amended the act to include "a comprehensive plan for managing zoos and aquariums every five years," compiled by a Zoo and Aquarium Management Committee, a group of animal welfare and

conservation experts, to consult on captive animal management policy objectives for local governments. The first comprehensive plan (2021-2025) addresses five main problems in South Korean zoos: (1) poor exhibit environments, (2) lack of safety and disease management, (3) inadequate research and conservation systems, (4) poor resources for public relations and education, and (5) lack of a zoo evaluation or support system [16]. Significantly, the KZA's comprehensive plan emphasizes the principle of coexistence by envisioning a "zoo where both people and animals are happy" through a safe environment and the development of research partnerships for biodiversity conservation.

## 2. Theoretical Framework

This research relied on a policy discourse analysis to identify policy silences and discursive change agents affecting the transformation of captive animal management policy and practice in South Korean zoos. Policy discourse analysis is a hybrid approach combining discourse theory and policy analysis, where policy is discursive and analyzed as discourse. This framework highlights dominant discourses, often assumed to be true and rarely questioned, and examines how these discourses shape and represent problems, solutions, and subject positions in policy [1]. Understanding policy through a discursive lens can uncover how policy efforts aiming to promote positive change can strengthen or undermine this change.

In this research, discourse is defined as "an ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities" [21]. Applying Foucault's thick approach to discourse analysis, practices are included as discursive, where discourses also represent practices which "form the objects of which they speak." Foucault envisioned discourses as a "system of representation" that combines these interrelated elements [17]. Allan [1] qualifies discourses as "dynamic constellations of words and images that are actively reinforced, resisted, and reconstructed." Discourses construct and are constructed by giving and receiving meaning from reality through language, where language reflects and builds the context in which it is used. This reflexivity causes discourses to create a system of repetition, within which they remain stable, creating a foundation for institutions which work to sustain the continued repetition of these systems.

Understanding policy as discourse highlights the struggles between power and knowledge that occur in the policy process and allows one to deconstruct assumptions underlying policy problems and solutions. Policy as discourse is not static, but "dynamic—actively circulating, intervening, and intervened upon at microlevels of society and enmeshed in a complex and contradictory process of negotiation" [1]. Policy is therefore fluctuating, antithetical, political, and value-laden as it regulates social relations. Foucault [17] viewed power

and knowledge as linked in discourse, with language constructing knowledge and power as knowledge. Both elements help define one's physical and social realities. What one perceives as "true" is an effect of discourse and tends to hold more power. Some discourses with more discursive power may overshadow other discourses in policy. As such, because certain discourses are held as truer than others, "policy can both support and subvert dominant discourses that emphasize particular perspectives and obscure others". Those "discussions absent from the policy report" are known as policy silences [1].

This research's approach to discourse analysis uses frame theory, where frames are referred to as the broadly shared beliefs, values, and perspectives familiar to the members of a societal culture and likely to endure in that culture over long periods of time, on which individuals and institutions draw to give meaning, sense and normative direction to their thinking and action in policy matters [39]. It should be noted that discourses differ from frames as they are not tied to any particular group or location, but flow across cultural boundaries within a global network of communication [35]. As such, understanding frames within the discourses help us pinpoint which policy discourses hold the most discursive power, and which are silent [30]. Additionally, Hajer [22] states that discourse analysis explores "how a particular framing of an issue makes certain elements appear fixed or appropriate, while other elements appear problematic." As a result, understanding how actors frame their reality allows us to identify which policies and practices they view as questionable or acceptable. Benford & Snow's [7] frame articulation concept, which is the "connection and alignment of events and experiences so that they hang together in a relatively unified and compelling fashion" is used to identify frames. This article groups together frames with similar articulations within a discourse.

Finally, actors in this study are categorized actors as (1) conservation, (2) animal welfare, and (3) animal rights discourse coalitions, which are "a group of actors that, in the context of an identifiable set of practices, shares the usage of a particular set of story lines over a particular period of time" [21]. Amongst them, actors who are discursive change agents, or actors who have changed the discourse are identified [4]. Foucault saw people as fixed within the dominant discourses of their time [23]. Yet, although the reflexive nature of discourse causes it to remain stable, discursive change agents, or "those actors, groups, or coalitions that are able to reframe a certain discourses" [3], may change discourses, potentially causing "discursive shifts," when they intervene in such a way that their actions echo in the media, science, and politics. This study assesses how these agents influence or affect the discourses in policy and practice potentially shifting discourses on the role of modern zoos.

### 3. Methods

This research was conducted using document analysis,

in-person interviews, and non-participatory observation centered around the Seoul Grand Park Zoo in South Korea (Table 1). Research was completed between June and August 2017 and from April to December 2021. Field research was hosted by the EcoScience Lab at Ewha Women's University, and thirty-four interviews were administered. This study represents a policy discourse analysis centering on the South Korean Zoo and Aquarium Management Act. Results from the Muséum d'Histoire Naturelle (MNHN) in France (Table 2), and the Smithsonian's National Zoological Park (SNZP) in the United States (Table 3) are used as points of comparison throughout the article.

The analysis of this study focuses on South Korea's SGPZ to introduce an Asian perspective into a discussion dominated by Western approaches. The SGPZ has faced similar challenges as institutions in Western nations, balancing a complex set of tradeoffs between priorities in research, education, conservation, animal welfare, and entertainment. Like in Europe and the United States, the animal rights and welfare movements played a critical role in improving zoo animal care. However, South Korea's rapid modernization pushed a more accelerated transition of the SGPZ from entertainment venue to conservation institution focused on reaching international standards in saving species and improving animal well-being. As a result, the SGPZ represents a unique setting where relationships between animals and their caretakers are rapidly evolving.

A comprehensive literature review on animal welfare, rights, animal and environmental ethics, conservation, and the evolution of modern zoos to distill conservation, animal welfare, and animal rights discourses on conservation and individual animal interests was used to first determine how actors in conservation, animal rights, and animal welfare discourse-coalitions understand captive animal management problems and solutions in zoo policy and practice. This review also allowed an understanding of how these actors frame the 'duty of care' owed to animals within zoological parks, and how they use this understanding to shape policy problems and solutions.

Next, interviews were conducted in-person, by phone, Zoom, or Skype, with actors identifying as members of animal rights, animal welfare, and conservation discourse coalitions, to determine whether discourses in the literature were representative of perspectives among actors in discourse coalitions. The interviewees were recruited, using snowball sampling and respondents provided free, prior, and informed verbal consent. Most participants agreed to be named in this publication. Those requesting anonymity are described as representatives of their corresponding organizations.

Overall, 88 in-depth, semi-structured interviews were collected with thirty-four of these being in South Korea. Interviews were conducted in English, French, or Korean, depending on the interviewee's preference. All interviews were audio recorded, transcribed in writing, and relevant citations were translated into English. On average, each interview lasted one hour. Questions focused on interviewees' percep-



tions of animal welfare, conservation, animal rights, the role of zoos, how these organizations are impacted by society, the challenges interviewees face in their line of work, and how they address these challenges. Follow-up questions ensued according to the flow of the interview.

Third, concept maps of interview transcriptions were constructed to identify frames, creating visual representations of how interviewees connect, differentiate, and categorize various concepts in their responses. For each interview question, the main concepts emphasized by interviewees in their responses were identified and circled. Arrows were then drawn between concepts, and labeled with connecting phrases used by interviewees to illustrate how participants related or dissociated them [9]. The textual content of interviews was then analyzed alongside administrative, policy, and media documents. Content analysis was conducted by selecting, coding, and organizing patterns in the texts using Gee's [18] seven questions for discourse analysis, pinpointing the significance, practices, identities, relationships, politics, connections, and knowledge. To identify policy silences, the authors compared problems and solutions listed in policy documents with problems and solutions pointed out by members of discourse coalitions. The contexts of words, phrases, and passages related to how actors perceive the 'duty of care' owed to zoo animals were examined. Through this, this study determined how actors frame problems and solutions in policy, and what problems and solutions are missing from the policy discourse.

The list of interviewees in Korea, France, and the USA are respectively presented in Table 1, Table 2, and Table 3 in the Appendix.

## 4. Results

The KZA has two main objectives: (1) to establish and improve the welfare of exhibited animals and (2) to foster zoos as exemplary biodiversity and conservation research institutions. It identifies the absence of animal welfare standards and collaborative research networks as major policy concerns and envisions the transformation of Korean zoos into spaces "where both people and animals are happy." Alongside the policy, Korean discourse coalitions in conservation, animal welfare, and animal rights, frame the problems and solutions related to captive animal management in the following ways.

### *Framing Problems and Solutions in Zoo Animal Care*

First, the KZA draws on comparisons between Western and South Korean zoos to frame poor animal welfare as a national problem and illustrate the ideal standard Korean zoos should strive to attain. The Act's comprehensive plan mentions that whereas "Major developed countries [strive] to reproduce natural habitats based on the 'Zoo Innovation Movement,'" the majority of Korean public zoos are "entertainment facilities in the form of animal exhibitions" [16]. Through these comparisons, the comprehensive plan identifies the need for welfare evaluation programs, a stricter registration system for zoo

permits, and government support, which, it states, guarantee the quality of major zoos in the developed world, and zoos in South Korea seemed to have more rooms for improvement. "It's been hard for humans to live and eat until now," says Kwon (Korean National Park Service), "so animal welfare wasn't even considered until recently." Ma (Animal Happiness Lab) elaborates that "South Korea has less zoos and less interest in zoos than other countries. Most Korean zoos are public with low financial resources and outdated facilities." Kwon (KNPS) wishes Korean zoos to transform into "ecological zoos, like in Europe or in the United States," as "places for animals, where people can see them in their natural habitat". For Ma (AHL), animal welfare reforms in Korea take time, because Korean attitudes against animal rights are rooted in a cultural mindset with "an emotional response against strong disruptive arguments". Though Korean animal welfare and rights discourse coalitions have long advocated for minimum welfare standards in zoos, it seems that policy makers have been slow to enforce this to avoid disturbing zoo businesses.

Second, the KZA does not explicitly define 'animal welfare,' but frames good animal welfare as the absence of poor welfare. The act frames solutions to eliminating negative animal welfare as the need to establish basic, fundamental welfare standards through environmental enrichment and freedom from hunger, thirst, and physical discomfort. These reflect the "five freedoms model," a minimum standard of animal welfare that includes freedoms (1) from hunger and thirst, (2) from discomfort, (3) from pain, injury, and disease, (4) to express normal behavior, and (5) from fear and distress [15]. To ensure that zoos adhere to these standards, the KZA emphasizes the need for an objective animal welfare evaluation system. Ma et al. [31] suggest the Animal Welfare Assessment Grid (AWAG), a scoring system that quantitatively evaluates physical, psychological, environmental, and procedural parameters in zoos and therefore provides an "objective value that cannot be interpreted differently between inspectors." Although the AZA accredited SGPZ has access to animal welfare guidelines, Ma et al. [31] highlight that the association only suggests members come up with their own evaluation methods rather than provide a universal way of assessing complex animal welfare. Most AZA and EAZA accredited zoos, however, have adopted welfare models that prioritize improving the positive, subjective experiences of individual animals and evaluate how four physical domains of nutrition, physical environment, health, and behavioral interactions affect a fifth, mental state of individual animals [33]. EAZA and AZA zoos have expanded welfare practices to 'empower' zoo animals by increasing choice and control over preferences and changes within captive environments to increase positive welfare states and to inclusively evaluate the welfare states of all species [2]. In contrast, Ma et al. [31] use AWAG primarily to identify and monitor negative welfare indicators. Ma (AHL) states, "Our country's level of welfare is not at the level of giving animals choice and control. We

should give animals at least one choice and do more when we are able to." Defining animal welfare as, "a tireless and continuous effort to make animals happy," Ma emphasizes that Korean zoos should first ensure basic welfare through eliminating negative states and providing basic enrichment, which, she says remains insufficient in most Korean zoos: "Even the SGPZ provides enrichment only three times weekly, when they should provide it daily." Eliminating negative animal welfare in zoos also reflects the perspective of Korean animal rights discourse coalition actors such as Jeon (Korean Animal Rights Advocates), who believe, "Zoos can do a lot of good for animals if they have monetary support". She insists that these resources should be used to model enclosure environments after natural habitats.

Third, the Zoo Act frames the lack of expertise and sufficient animal welfare training for zoo staff as a problem for positive animal welfare. As a solution, it aims to increase the number of trained veterinary and zookeeper positions in South Korean zoos. Besides the SGPZ, which hosts a large veterinary hospital on-site, many zoo veterinarians are often hired on commission in Korean zoos. As a result, the Zoo Act aims to establish measures that foster and support professional personnel for the operation of zoos and aquariums. Within the past decade, due to animal rights and welfare advocacy campaigns, the SGPZ has reformed practices in ways that are beneficial to animals, encouraging positive reinforcement training, expanding exhibits, and establishing enrichment programs. Ma (AHL) affirms that the SGPZ's membership to the AZA in 2019 helped "restore the confidence of Korean citizens in the zoo" and demonstrates that the Seoul Zoo can sufficiently adhere to animal welfare because they are part of program dedicated to improving animal welfare. However, she worries whether the zoo will be able to maintain sufficient resources and trained people to continue its accreditation membership status. Zookeepers within the animal welfare and conservation discourse coalitions at the SGPZ point out conflicting mindsets within the zoo regarding duty of care because of changes in welfare practices. Jeong and Bae (SGPZ) state that disagreements have increased between older and younger zookeepers, with older zookeepers perceiving their jobs as becoming more unnecessarily difficult and not understanding why they should provide regular enrichment for animals. These strained relationships represent obstacles to understanding how staff can best fulfill zoo animal interests. Educating zookeepers through animal training programs, where animals are trained to cooperate with zookeepers to fulfill certain tasks and "take part in their own husbandry and care routines" [38], represents a potential solution. According to Bourgeois (Ménagerie), "From the moment an animal is in captivity, there is an obligatory regular contact with humans and so we can't permit ourselves to be a source of stress for them. If contact isn't positive, it should at least be neutral." She maintains that creating training programs at the Ménagerie improved human-animal relationships and "really changed [the zookeepers'] perspectives. They realized, if the

animal is not cooperating, it's not that he wants to bother us, it's that he has a need that hasn't been met." However, according to Lee (Project Moonbear), training animals in these ways remains rare, and his occasional training sessions at the SGPZ are not always accepted by all the zookeepers.

## 5. Conclusions

This study asks to what extent and how do South Korean discourse coalitions and captive animal management policies critically examine animal welfare and conservation practices to promote human-animal coexistence in zoological parks. Compassionate conservation's principle of peaceful coexistence depends on humans modifying their actions to solve human-animal conflict in ways that do not harm individual animals. Korean zoo policy emerged as a response to conflicts between humans and animals, where the interests of animals were less considered than those of humans. It also emerged as a way of transforming zoos into scientific and conservation-oriented institutions so that they may become part of the modern zoo community. In envisioning zoos as places "where both people and animals are happy," the KZA identifies coexistence as a primary goal in its captive animal management strategy. This research determines that South Korean animal welfare and rights discourse coalitions most critically examine practices to promote coexistence and reduce harm to individual animals. It also determines that, although the Zoo Act establishes a foundation for minimum welfare standards in captive animal management, it does not sufficiently address how to increase positive welfare states, especially when promoting conservation goals centered around population management and captive breeding. This research therefore identified the following points that illustrate the state of peaceful coexistence in South Korea.

First, the KZA exclusively focuses on evaluating and eliminating negative animal welfare states in South Korean zoos and does not emphasize the evaluation of animal emotions and affective state. Melfi [32] notes that the tendency of zoos to focus on eliminating negative welfare states is rooted in an overly simplistic interpretation of good welfare as equivalent to the absence of bad welfare. This approach simplistically assumes that knowledge about related species—usually domestic animals—can be used to inform negative welfare indicators in exotic species. However, indices for negative welfare are not always clear in many species of wild animals. Additionally, though reducing negative welfare indicators can improve welfare, reaching a state of good welfare means encouraging positive welfare states. Boissy et al. [8] define positive welfare as "primarily the presence of positive experiences such as pleasure," and Melfi [32] categorizes this as "a measure of the animal's perception of their condition," which requires an understanding of animal emotions and opinions about their condition. Several studies suggest the use of cognitive bias testing as a tool to measure the affective state of zoo animals [14, 34, 44]. Cognitive bias

testing "measures how emotional states can affect cognitive processes" [14] by presenting an animal with cues resulting in positive, ambiguous, or negative outcomes. Simply put, animals in positive emotional states will exhibit more optimistic responses than animals in negative emotional states when responding to ambiguous cues, indicating that they expect positive outcomes. Whitham and Wielebnowski [44] suggest a shift in the zoo community on the perception of welfare from eliminating negative states to increasing positive states through research centered on understanding the positive subjective experiences of animals. They also suggest that "appropriate and beneficial keeper-animal relationships," along with providing animals with choice and control over their environments are key to facilitating these experiences. However, both the policy discourse and animal welfare, animal rights, and conservation discourse coalition actors indicate that many Korean zoos do not have the resources or the training necessary in animal welfare to evaluate or increase positive welfare states.

Second, animal welfare and rights discourses have the most power over policies in captive animal management. Animal rights and welfare discourse coalitions contain the most discursive change agents causing shifts in discourses through their presence in politics and the media. Korean animal welfare and rights groups have produced several reports and campaigns fixated on eliminating negative welfare states in zoos for the past decade, and to educate the public on the importance of animal welfare. The creation of the KZA was spurred by these efforts. Therefore, problems and solutions in zoo captive animal management identified and outlined in the KZA were framed similarly by Korean animal welfare and rights discourse coalitions. Having emerged within the past ten years, both the animal rights and welfare movements are relatively novel in South Korea. This research also found that welfare and rights discourse coalitions often did not distinguish these rights and welfare ethics from each other in the public discourse. Together, these two coalitions have influenced the creation of Korean zoo policy, advocating for the removal of 'bad zoos' and the establishment of 'good zoos,' rather than the removal of all zoos [26]. Significant change agents within the animal welfare and rights discourse coalitions highlighted major problems in Korean zoological parks and lobbied for change. As veterinary and ethical consultants for the Zoo Act's animal welfare committee, Ma (AHL), Jeon (Action for Animals), and Lee (Animal Welfare, Awareness, Research, and Education) have greatly influenced the development of a strategy to improve South Korean Zoos and played a part in changing the public discourse by educating people on animal welfare. Animal rights groups such as Korean Animal Rights Advocates (KARA) and Coexistence of Animal Rights on Earth (CARE) have successfully campaigned to shut down roadside zoos with questionable practices and have had active discussions with the SGPZ on how

to improve zoo enclosures. Choi (PMB) has also influenced these discourses through the media, campaigning for the creation of animal sanctuaries [12]. Individuals such as Lee (PMB), a self-educated animal trainer also act as change agents by directly working to change practices and offer their expertise in zoos. Younger zookeepers at the SGPZ also actively change the internal functions of the zoo through their acquired expertise in animal care and welfare. Finally, some conservation discourse coalition actors also influenced change out of concern for individual animals through the creation of the CITES (Convention on the International Trade of Endangered Species of Wild Fauna and Flora) refuge and Eco-care center at the Korean National Institute of Ecology.

Lastly, the KZA establishes a captive breeding strategy to improve the conservation role of zoological institutions. Though the zoo policy emphasizes the need for a zoo network and accreditation system to regulate zoos and foster research for conservation, the lack of a network prevents the SGPZ from doing its due diligence in addressing tradeoffs that can occur during population management. To truly transform Korean zoos into places where humans and animals coexist, the captive animal management policy should aim to build networks and regulations enforcing welfare standards for captive animal management while creating public spaces for discussing and educating the public about animal welfare. In doing so, the principle of peaceful coexistence can be advanced and practiced.

## Abbreviations

AHL	Animal Happiness Lab
AVMA	American Veterinary Medical Association
AWAG	Animal Welfare Assessment Grid
AZA	Association of Zoos and Aquariums
CITES	Convention on the International Trade of Endangered Species of Wild Fauna and Flora
CARE	Coexistence of Animal Rights on Earth
EAZA	European Association of Zoos and Aquariums
HAI	Human-Animal Interactions
KARA	Korean Animal Rights Advocates
KNPS	Korean National Park Service
KNIE	Korean National Institute of Ecology
KZA	Act on the Management of Zoos and Aquariums
MNHM	Muséum National d'Histoire Naturelle
PMB	Project Moonbear
SGPZ	Seoul Grand Park Zoo
SNZP	Smithsonian National Zoological Park
WAZA	World Association of Zoos and Aquariums

## Conflicts of Interest

The authors declare no conflict of interest.

## Appendix

**Table 1.** Thirty-six interviews conducted in the Republic of Korea from June to August 2017 and from April to December 2021.

Organization	Interviewee	Position
Seoul Grand Park Zoo (SGPZ) <sup>1</sup>	Bae, Ju-Hee	Zookeeper, Species Conservation Education Center
	Choi, Jin	Curator
	Eo, Gyeong-Yeon	Coordinator, Research Laboratory
	Jeong, Yu-Jeong	Zookeeper, Species Conservation Education Center
	Kim, Bo-suk	Acting Director
	Kim, Min-Su	Action Officer, Conservation and Health Center Action
	Park, Seon-Deok	Team Leader
	Seon, Ju-Dong	Zookeeper
	Yeo, Yong-Gu	Director, Conservation and Health Center
Korean Animal Rights Advocates (KARA) <sup>2</sup> Action for Animals <sup>3</sup>	Yeom, In-Yeong	Education Coordinator
	Jeon, Jin-Kyeong	Executive Director
Animal Welfare Awareness Research, and Education (AWARE) <sup>3</sup>	Jeon, Chae-Eun	Representative
Animal Happiness Laboratory <sup>3</sup>	Lee, Hyeong-Ju	Representative
Project Moonbear <sup>3</sup>	Ma, Seung-Ae	Veterinarian, Representative
	Choi, Tae-Gyu	Veterinarian, Representative
	Lee, Sun-Yeong	Animal Trainer
Ewha Women's University <sup>4</sup>	Choi, Jae-Cheon	Chair Professor, EcoScience Division
	Name Withheld	Researcher
Mokpo National University Institution for Marine and Island Cultures <sup>4</sup>	Hong, Seon-Ki	Director, Center for Island Sustainability
	Kim, Jae-Eun	Library Studies Researcher
Jeju National University <sup>4</sup>	Kim, Byeong-Yeop	Professor, Fisheries
	Kim, Yeong-Jun	Director, Animal Care Laboratory
	Jang, Ji-Deok	Department Head, Animal Care Laboratory
	Jeong, Gil-Sang	Researcher
Korean National Institute of Ecology (KNIE) <sup>5</sup>	Ryu, Heung-Jin	Researcher
	Woo, Dong-Geol	Researcher
	Ahn, Yong-Rak	Department Head, Classification laboratory
Marine Biodiversity Institute of Korea (MABIK) <sup>5</sup>	Han, Dong-Wook	Director
	Jeong, Dong-Hyeok	Director, Wildlife Medical Center
	Kim, Eui-Kyeong	Conservation Biologist, Mammals
Korean National Park Service (KNPS) <sup>5</sup>	Kim, Jeong-Jin	Technical Team Leader, Species Restoration Technology Department
	Kwon, Yeong-Su	Conservation Biologist, Birds
	Name Withheld	Veterinarian
	Name Withheld	Researcher



Organization	Interviewee	Position
	Song, Dong-Ju	Director, Jirisan Asiatic Blackbear Restoration Program
	Song, Jae-Yeong	Conservation Biologist, Reptiles and Amphibians

1Zoological parks and zoo associations; 2animal rights organization; 3animal welfare organization; 4academic institution; 5conservation research organization.

**Table 2.** Thirty-one interviews conducted in France from May to August 2019 and from March to October 2020.

Organization	Interviewee	Position
	Bourgeois, Aude	Veterinarian
	Chai, Norin	Adjunct Director/Chief Veterinarian
	Duby, Dylan	Veterinarian
Ménagerie <sup>1</sup>	Hano, Christelle	Head Zookeeper
	Rey, Élodie	Curator
	Kayser, Pauline	Zookeeper
	Saint Jalme, Michel	Director
	Jacques, Patricia	Educator
Parc Zoologique de Paris (PZP) <sup>1</sup>	Marquis, Olivier	Curator
	Morino, Luca	Curator
	Quertier, Élisabeth	Educator
Réserve Zoologique de la Haute Touche (RZHT) <sup>1</sup>	Locatelli, Yann	Adjunct Director
	Simon, Roland	Director
Association Française des Parcs Zoologiques (AFdPZ) <sup>1</sup>	Erny, Cécile	Director
La Fondation Droit Animal Éthique et Sciences (LFDA) <sup>2</sup>	Bachelard, Nikita	Public Relations Officer
Animal Rebellion <sup>2</sup>	“Boonkin”	Activist
La Fondation Brigitte Bardot (FBB) <sup>2</sup>	Gérôme Delgado, Élodie	Adjunct Director, Animal Protection Division
Code Animal <sup>2</sup>	Morette, Alexandra	President
Paris Animaux Zoopolis (PAZ) <sup>2</sup>	Sanvisens, Amandine	President
Akongo <sup>3</sup>	Romain, Amélie	Head Animal Welfare Specialist
Université Paris Créteil <sup>4</sup>	Estebanez, Jean	Geographer
Université de Liège <sup>4</sup>	Servais, Véronique	Anthropologist
	Abourachid, Anick	Evolutionary Biologist
	Duboscq, Julie	Ethologist
	Joly, Éric	Director, Zoological and Botanical Gardens
	Maille, Audrey	Ethologist
Muséum National D'Histoire Naturelle (MNHN) <sup>5</sup>	Mihoub, Jean-Baptiste	Ecologist/Conservation Biologist
	Petit, Odile	Ethologist
	Pouyedeбат, Emmanuelle	Ethologist
	Sarrazin, François	Ecologist/Conservation Biologist

Organization	Interviewee	Position
	Sueur, Cédric	Ethologist

<sup>1</sup>Zoological parks and zoo associations; <sup>2</sup>animal rights/advocacy organization; <sup>3</sup>animal welfare organization; <sup>4</sup>academic institution; <sup>5</sup>research organization.

**Table 3.** Fourteen interviews conducted in the United States of America from March to December 2020.

Organization	Interviewee	Position
Smithsonian National Zoological Park (SNZP) <sup>1</sup>	Bernardoni, Elise	Assistant Director, Education Programs
	Herrelko, Betsy	Assistant Curator, Animal Welfare and Research
	Hill, Kristin	Supervisor, Conservation Engagement
	Monfort, Steven	Director, SNZP and SCBI
	Smith, Brandie	Associate Director, Animal Care
	Name Withheld	Educator
Smithsonian Conservation Biology Institute (SCBI) <sup>2</sup>	Comizzoli, Pierre	Chair, Research, Animal Care and Use Committee
	Leimgruber, Peter	Head, Conservation Ecology Center
	Mcshea, William	Wildlife Ecologist
	Name Withheld	Representative
George Mason University <sup>3</sup>	Pitt, Will	Deputy Director
University of Colorado Boulder <sup>3</sup>	Name Withheld	Professor, Conservation Biology
World Conservation Society (WCS) <sup>4</sup>	Bekoff, Marc	Ethologist
	Robinson, John	President

<sup>1</sup>Zoological parks and zoo associations; <sup>2</sup>research organization; <sup>3</sup>academic institution; <sup>4</sup>conservation research organization.

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