

Professional sport organizations as potential champions of biodiversity conservation

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Biodiversity loss is a global crisis, human-driven species extinction rates are higher than ever before, and these rates are expected to worsen. This calls for new socio-economic business models that could inspire societal transformations benefitting biodiversity conservation and restoration. The emblems of sport organizations are often articulated around the central figure of a wildlife species. Such species occupy an important part of the cultural space and can therefore serve as important flagship species for conservation through sport, particularly those most threatened with extinction (Courchamp *et al.* 2018). At the intersection of two hitherto unrelated realms (ie sport and conservation), there are potentially important synergies that are unique to the sport sector among three groups of stakeholders: professional team-sport organizations, fan communities, and biodiversity conservationists (Figure 1).

Despite growing willingness to act in favor of the environment, sport stakeholders lack connections with and support from conservation experts to design evidence-based interventions. Hence, biodiversity conservation is not yet a priority on the sustainability agenda of professional sport organizations. There are win-win strategies for mobilizing sport stakeholders for biodiversity conservation: connecting fans' enthusiasm for sport, the symbolic attachment to wildlife emblems, and the imperative of biodiversity conservation (Figure 1). These strategies combine three stakes: (i) conservationists need greater support and resources to protect wildlife, (ii) sport fans benefit from a solid connection with their team, and (iii) sport organizations rely on loyal fans and high brand value.

■ Stake 1. Conservationists need improved support and resources

Our inability to halt the degradation of biodiversity echoes the low support from the general public, the increasing disconnection between people and nature, and the chronic underfunding and lack of ambition in conservation strategies (Barbier *et al.* 2018). Animal imagery is a powerful cultural driver of wildlife perceptions, can strengthen connection with nature, and so plays an important role in conservation marketing aimed at raising biodiversity awareness and financial resources. Hence, ubiquitous animal imagery in the sport industry could promote flagship species whose traits (ecological, physiognomic, or cultural) resonate with sport communities, and whose conservation could attract support for broader conservation targets (Verissimo *et al.* 2011). For instance, the lion (*Panthera leo*) is the most frequently used animal emblem across team sports, is highly charismatic, and yet is threatened with extinction (Courchamp *et al.* 2018), making it a potent flagship species for many ecosystems.

Animals selected to represent strength, courage, or independence were first used as good luck charms for sport fans, and became an integral part of team identities and legacies over time. Owing to sustained marketing, wildlife has become embedded in the identity of sport organizations globally, and species are now widely featured in emblems, logos, mascots, and nicknames to reinforce the bond between fans and their teams (Bishop 2001). Sport-associated wildlife emblems represent many taxa (eg mammals, reptiles, insects, birds, plants),

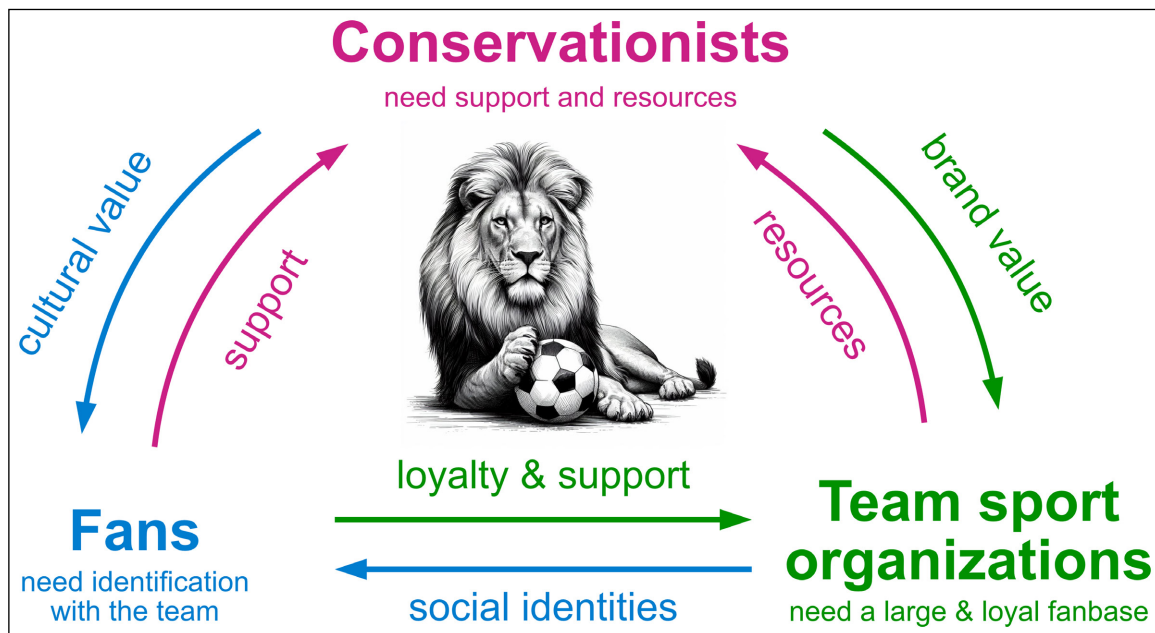


Figure 1. We identified three main stakes corresponding to each stakeholder (in pink, blue, and green) concerning the interconnection between sport and wildlife. This schematic representation in a tripartite framework illustrates the assets that each of the three stakeholders (conservationists, fans, and sport organizations) can bring to one another. Their interests could align around the central figure of a wildlife species (here, a lion *Panthera leo*) used as an emblem of many sport organizations. Each stake unpacks into hypothetical links that are developed in the respective sections of the main text. Disclosure statement: the image of the lion was created with the assistance of Artificial Intelligence.

and therefore reflect a variety of life forms and ecosystems. In the wild, some of these emblematic species are at risk of extinction, and this reality concerns nearly every professional sport league worldwide, regardless of geographic location, sport, or main gender. Conservationists therefore have an opportunity to convince sport organizations that they could be powerful champions of biodiversity conservation.

■ Stake 2. Fans benefit from a strong team identity

Team identification, defined as the fan's psychological connection to a team (Wann *et al.* 2001), is partly shaped by wildlife logos and nicknames. The overarching question underpinning the potential for biodiversity conservation in the sport industry is the extent to which fans are, or could be, attached to the real animals behind a team's logo. Indeed, there are tangible links between fans and wildlife. First, wildlife species in sport emblems have meaningful cultural value as symbols of community identity, and represent specific skills (eg agility, speed, strength) or behavior (eg the Paris 92 handball team invites fans to "roar with the lionesses" during matches). Second, team identification is sometimes demonstrated through non-verbal communication like tattoos featuring the animal in the team's logo (eg a realistic owl instead of the abstract logo of the Universidad de Chile football club). Third, the common practice of featuring live animals at sport events worldwide demonstrates the attachment to wild animals like the golden eagle (*Aquila chrysaetos*) named Attila and bald eagles (*Haliaeetus leucocephalus*) named Vitória and Olympia flying

over the stadiums of Eintracht Frankfurt e.V., S.L. Benfica, and S.S. Lazio, respectively, before home games. Conservationists working to protect these species are thus indirectly, but actively, contributing to protecting the cultural value that fans assign to wildlife, and the identity of the team they support.

Unlike traditional businesses, the sport industry is primarily concerned with selling intangible, emotional experiences (McCullough and Kellison 2017). Emotions are the cornerstone of the sport experience and constitute a powerful driver of a fan's social identification and, hence, loyalty to the team. We posit that emotions associated with wildlife species representing a team and its fans could also spur positive behavior, like engagement in biodiversity conservation. The cultural, emotional, and identity-based ties to wildlife are distinctive to the sport industry, offering a unique and powerful potential for transformative change that is unmatched in other sectors. Because sport is an important vehicle for cultural values and is educational in nature, there is thus ample opportunity for raising awareness and enhancing wildlife-oriented values in sport communities. Rallying fan communities to biodiversity conservation, especially younger members, is required to convince sport organizations of the merits of setting up co-constructed biodiversity initiatives (McCullough and Kellison 2017).

■ Stake 3. Sport organizations rely on loyal fans and high brand value

Professional team sport has adopted the codes of the corporate world, and its financial viability relies on fan identification,

loyalty, and commitment (Biscaia *et al.* 2018). This is why sport organizations have developed strong and easily identifiable brands through the combination of names and symbols, often using animal imagery to communicate personality, traits, and values. These marketing instruments allow sport organizations to maintain high brand equity (ie the image of the brand in the eyes of fans and customers) (Giroux *et al.* 2017) beyond its monetary brand value. Thus, setting biodiversity conservation on the nascent sustainability agenda of team sport organizations is a threefold opportunity. First, if the values of biodiversity conservation are deemed congruent with the identity and values of these organizations from the fans' perspective, then the increase in brand equity combined with the fans' call to action could stimulate transformation in the organization's business plan. Second, by enhancing their brand equity, sport organizations could also reinforce fan identities. Third, sport organizations need to keep attracting new customers and enlarging their fanbase. Organizations that align their values with pro-environmental societal shifts could open their markets to a new demographic of fans.

Sport organizations are major economic stakeholders and are therefore expected to endorse social and environmental responsibility. Corporate social responsibility and its environmental implications represent the commitment to improve societal and environmental well-being through sustainable practices. Sport organizations could be potent actors of biodiversity conservation owing to their own and their partners' large financial resources. For instance, 19 professional cricket organizations with wildlife emblems sold a minimum of US\$168 million worth of team-related merchandise in 2023 alone (source: D&B Hoover's database; [dnb.com](https://www.dnb.com)). Even a small proportion of these funds would constitute a massive contribution to conservation. Expanding social action of the sport sector (eg improving health or inclusiveness) to biodiversity conservation could provide unique positioning among local and global competitors. In addition, sport organizations have an unrivalled communication potential through diverse media (traditional print media, websites, social media, television), events (matches, competitions, ceremonies), and celebrities (international athletes, franchise owners, high-profile fans). Our view is that conservationists cannot overlook these powerful communication levers to raise awareness and trigger action for and investment in biodiversity. Importantly, the collaborative construction of a biodiversity-oriented movement in sport should be vigilant to provide substantive improvements in biodiversity impacts to avoid criticism of greenwashing.

■ Outlook

Our tripartite framework encourages team sport organizations and their communities to partner with conservation experts to channel resources toward biodiversity conservation and restoration. The communication channels of sport organizations could be used not only for highlighting the importance

of biodiversity for ecosystem functioning and people's well-being but also for stimulating behavioral change among audiences. Furthermore, financial contributions to conservation would constitute a way to "pay back" wildlife species after having capitalized on their cultural and symbolic representations. Such mechanisms are analogous to payments for ecosystem services (Kronenberg and Bocian 2022) and could take the form of voluntary certification–donation systems (Braczkowski *et al.* 2021), or a more legally binding form of mandatory copyright payments (eg species or wildlife royalties) (Courchamp *et al.* 2018), collected as a percentage of ticket sales or merchandising, for example. Although these mechanisms have been explored in other sectors (Braczkowski *et al.* 2021), they have not been specifically applied to sport and therefore overlook the distinctive emotional and identity-based connections to wildlife emblems found in this context. To test the multiple hypotheses laid out in the framework (Figure 1) and co-construct long-term projects that would benefit biodiversity conservation, we call for interdisciplinary and inclusive research applied to traditional and emerging collective sports like esports. This research will require scientific expertise including, but not limited to, social, psychological, economic, and conservation disciplines, and its outcome will hopefully foster transformations in behavior and practice for a more sustainable relationship between sport and nature.

■ References

- Barbier EB, Burgess JC, and Dean TJ. 2018. How to pay for saving biodiversity. *Science* **360**: 486–88.
- Biscaia R, Hedlund DP, Dickson G, and Naylor M. 2018. Conceptualising and measuring fan identity using stakeholder theory. *Eur Sport Manag Q* **18**: 459–81.
- Bishop R. 2001. Stealing the signs: a semiotic analysis of the changing nature of professional sports logos. *Soc Semiot* **11**: 23–41.
- Braczkowski A, Allan JR, Jones KR, *et al.* 2021. Marketing products with wildlife: how to make it benefit conservation. *Front Conserv Sci* **2**: 649686.
- Courchamp F, Jarić I, Albert C, *et al.* 2018. The paradoxical extinction of the most charismatic animals. *PLoS Biol* **16**: e2003997.
- Giroux M, Pons F, and Maltese L. 2017. The role of perceived brand personality in promotion effectiveness and brand equity development of professional sports teams. *Int J Sport Mark Spo* **18**: 180–95.
- Kronenberg J and Bocian M. 2022. Animal and plant images in corporate marketing communications are ecosystem services that should be paid for. *Ecosyst Serv* **56**: 101464.
- McCullough BP and Kellison TP. 2017. An introduction to environmental sustainability and sport. In: McCullough BP and Kellison TP (Eds). *Routledge handbook of sport and the environment*. London, UK: Routledge.
- Verissimo D, MacMillan DC, and Smith RJ. 2011. Toward a systematic approach for identifying conservation flagships. *Conserv Lett* **4**: 1–8.

Wann DL, Hunter J, Ryan JA, and Wright LA. 2001. Team identification and willingness to consider illegally assisting teams. *Soc Behav Pers* **29**: 531–36.

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