

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/319067650>

International Wildlife Law: Understanding and Enhancing Its Role in Conservation

Article in *BioScience* · August 2017

CITATIONS

2

READS

315

21 authors, including:



Arie Trouwborst

Tilburg University

93 PUBLICATIONS 629 CITATIONS

[SEE PROFILE](#)



Andrew Blackmore

Ezemvelo KZN Wildlife - Scientific Services

69 PUBLICATIONS 220 CITATIONS

[SEE PROFILE](#)



Luigi Boitani

Sapienza University of Rome

355 PUBLICATIONS 14,796 CITATIONS

[SEE PROFILE](#)



Richard Caddell

Cardiff University

51 PUBLICATIONS 90 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Protected Area Management Plans [View project](#)



Wolves and Moose at Koppangkjølen [View project](#)

International Wildlife Law: Understanding and Enhancing Its Role in Conservation

ARIE TROUWBORST, ANDREW BLACKMORE, LUIGI BOITANI, MICHAEL BOWMAN, RICHARD CADDELL, GUILLAUME CHAPRON, AN CLIQUET, ED COUZENS, YAFFA EPSTEIN, ELADIO FERNÁNDEZ-GALIANO, FLOOR M. FLEURKE, ROYAL GARDNER, LUKE HUNTER, KIM JACOBSEN, MIHA KROFEL, MELISSA LEWIS, JOSÉ VICENTE LÓPEZ-BAO, DAVID MACDONALD, STEPHEN REDPATH, GEOFFREY WANDESFORDE-SMITH, AND JOHN D. C. LINNELL

Many conservation professionals are familiar with the Convention on International Trade in Endangered Species (CITES), the Convention on Migratory Species (CMS), the Convention on Biological Diversity (CBD), the Ramsar Convention, and the World Heritage Convention. Regional instruments, such as those focusing on Africa, Antarctica, or Europe, are also conspicuous features of the conservation arena. Other international wildlife agreements focus on particular species, such as polar bears or albatrosses, or particular transboundary protected areas, such as the huge Kavango-Zambezi Transfrontier Conservation Area (see table 1). These agreements are collectively known as *international wildlife law* (Bowman et al. 2010). The binding agreements themselves are typically accompanied and informed by an evolving set of nonbinding instruments, such as Conference of the Parties (COP) decisions and action plans.

In our experience, some conservationists harbor high (and possibly unrealistic) hopes about what international wildlife law can achieve. Others are extremely skeptical, viewing wildlife treaties as paper tigers and their COPs as a waste of resources. Still others are simply unsure of the relevance of these intergovernmental affairs. Confusion, ignorance, and misinterpretation are common. Our view is that international wildlife law offers significant opportunities for conservation success and has promising but largely unfulfilled potential.

We explore concisely the limitations of international wildlife regimes,

as well as their actual and potential contributions to biodiversity conservation. We then argue that it is worthwhile to invest in making the most of international wildlife law for conservation by following a selective, informed approach. To that end, we issue a call for increased cooperation between international wildlife lawyers and other conservation professionals.

Limitations

Law is but one of many tools that can be used to achieve conservation objectives, and the formal institutions of law operate within a broader context that includes informal institutions (Ostrom 1999). International law occupies an even smaller place within the conservation toolbox. Some of its limitations stem from the basic premises of public international law, whereby sovereign states conclude agreements on a voluntary basis in an international legal order that lacks the centralized legislative, executive, and judicial powers typical of domestic legal orders. In this setting, broadly proclaimed intentions to halt and reverse biodiversity loss have hitherto proven impossible to achieve in practice. Compliance is generally imperfect, with implementation and enforcement failures affecting even the most sophisticated legal instruments (Bowman et al. 2010, López-Bao et al. 2015, Wandesforde-Smith 2016, Chapron et al. 2017). Ideological differences between treaty parties pose another challenge, clearly evident in the recurrent debate within CITES over the relative weight to be given to strict protection versus sustainable use of rhinoceroses and elephants (Couzens

2014, Wandesforde-Smith 2016). Similar strife within the International Convention for the Regulation of Whaling (ICRW) threatens to render this regime dysfunctional (Couzens 2014).

To be effective, international legal instruments must include clear and adequate commitments, attract sufficient parties, and ensure a sufficient degree of compliance (Bowman 2000). Instruments vary in the degree to which they meet these criteria. Wildlife treaty negotiations are invariably affected by the apparent tension between attracting sufficient parties and the other two criteria, and many treaty texts reflect ensuing compromises. For instance, although nearly all states in the world quickly ratified the CBD, most of its obligations are, in legal terms, diminished by the qualification that they be fulfilled “as far as possible and as appropriate.” In addition, the convention lacks effective compliance mechanisms. Several treaties cater to country-specific exceptions by allowing *reservations*, a process whereby a state, when it becomes a party or when a new obligation is adopted, limits the scope of the treaty *vis-à-vis* that state—such as the reservation to the zero quota for commercial whaling lodged by Iceland upon rejoining the ICRW in 2002 and the reservations regarding wolves (*Canis lupus*) filed by 14 Bern Convention parties.

Essentially, international law cannot accomplish more than what the world’s diverse and changeable national administrations, and ultimately the societies they represent, want it to—or are capable of realistically implementing. The hitherto

Table 1. Overview of international legal instruments for wildlife conservation.

Title	Adopted	In force	Participants
'Big 5' global instruments			
Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)	1971	1975	169 P
UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage	1972	1975	192 P
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	1973	1975	183 P
Convention on the Conservation of Migratory Species of Wild Animals (CMS / Bonn Convention)	1979	1983	124 P
Convention on Biological Diversity (CBD)	1992	1993	196 P
Regional instruments with general scope			
Convention on Nature Protection and Wild-Life Preservation in the Western Hemisphere	1940	1942	19 P
African Convention on the Conservation of Nature and Natural Resources (Algiers Convention)	1968	1969	31 P
Convention on Conservation of Nature in the South Pacific	1976	1980	5 P
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	1979	1982	51 P
Protocol Concerning Protected Areas and Wild Flora and Fauna in the Eastern African Region	1985	1996	10 P
ASEAN Agreement on the Conservation of Nature and Natural Resources	1985	NIF	6 R
Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific	1989	1994	5 P
Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean	1990	2000	16 P
Protocol to the Antarctic Treaty on Environmental Protection	1991	1998	37 P
Convention for the Conservation of Biodiversity and the Protection of Priority Wilderness Areas in Central America	1992	1994	6 P
EU Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive)	1992	1992	28 MS
Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)	1992	1998	16 P
Protocol for the Implementation of the Alpine Convention Relating to Nature Protection and Landscape Conservation	1994	2002	7 P
Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean	1995	1999	17 P
Protocol to the SADC Treaty on Wildlife Conservation and Law Enforcement	1999	2003	10 P
African Convention on the Conservation of Nature and Natural Resources, revised version (Maputo Convention)	2003	NIF	13 R
East African Community Protocol on Environment and Natural Resource Management	2006	NIF	2 R
Protocol to the Carpathian Convention on Conservation and Sustainable Use of Biological and Landscape Diversity	2008	2010	7 P
CMS instruments – treaties			
Agreement on the Conservation of Seals in the Wadden Sea (WSSA)	1990	1991	3 P
Agreement on the Conservation of Small Cetaceans in the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS)	1991	1994	10 P
Agreement on the Conservation of Populations of European Bats (EUROBATS)	1991	1994	36 P
Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)	1995	1999	76 P
Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS)	1996	2001	23 P
Agreement on the Conservation of Albatrosses and Petrels (ACAP)	2001	2004	13 P
Agreement on the Conservation of Gorillas and their Habitats	2007	2008	7 P
CMS instruments – memoranda of understanding			
MoU Concerning Conservation Measures for the Siberian Crane (<i>Grus leucogeranus</i>)	1993	1993	11 S
MoU Concerning Conservation Measures for the Slender-Billed Curlew (<i>Numenius tenuirostris</i>)	1994	1994	18 S
MoU Concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa	1999	1999	23 S
MoU on the Conservation and Management of Middle-European Populations of the Great Bustard (<i>Otis tarda</i>)	2001	2001	13 S
MoU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia	2001	2001	35 S
MoU Concerning Conservation and Restoration of the Bukhara Deer (<i>Cervus elaphus yarkandensis</i>)	2002	2002	4 S
MoU Concerning Conservation Measures for the Aquatic Warbler (<i>Acrocephalus paludicola</i>)	2003	2003	16 S

Table 1. Continued.

Title	Adopted	In force	Participants
MoU Concerning Conservation Measures for the West African Populations of the African Elephant (<i>Loxodonta africana</i>)	2005	2005	13 S
MoU for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region	2006	2006	14 S
MoU Concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope (<i>Saiga tatarica tatarica</i>)	2006	2006	5 S
MoU between Argentina and Chile for the Conservation of the Ruddy-Headed Goose (<i>Chloephaga rubidiceps</i>)	2006	2006	2 S
MoU on the Conservation of Southern South American Migratory Grassland Bird Species and their Habitats	2007	2007	5 S
MoU Concerning Conservation Measures for the Eastern Atlantic Populations of the Mediterranean Monk Seal (<i>Monachus monachus</i>)	2007	2007	4 S
MoU on the Conservation and Management of Dugongs (<i>Dugong dugon</i>) and their Habitats	2007	2007	27 S
MoU Concerning the Conservation of the Manatee and Small Cetaceans of Western Africa and Macaronesia	2008	2008	17 S
MoU on the Conservation of Migratory Birds of Prey in Africa and Eurasia	2008	2008	58 S
MoU on the Conservation of High Andean Flamingos and their Habitats	2008	2008	3 S
MoU on the Conservation of Migratory Sharks	2010	2010	41 S
MoU between Argentina and Chile on the Conservation of the South Andean Huemul (<i>Hippocamelus bisulcus</i>)	2010	2010	2 S
CMS instruments – special species initiatives			
Sahelo-Saharan Megafauna SSI	1998	NA	15 RS
Central Asian Flyway SSI (CAF)	2001	NA	29 RS
Central Asian Mammals Initiative (CAMI)	2014	NA	14 RS
Other instruments with specific scope			
International Convention for the Regulation of Whaling (ICRW)	1946	1948	88 P
Convention for the Conservation of Antarctic Seals (CCAS)	1972	1978	17 P
Agreement on the Conservation of Polar Bears	1973	1976	5 P
Convention for the Conservation and Management of the Vicuna	1979	1982	5 P
EU Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive)	1979	1979	28 MS
Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)	1980	1982	36 P
Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora	1994	1996	7 P
Inter-American Convention for the Protection and Conservation of Sea Turtles	1996	2001	15 P
Protocol to the CBD on Biosafety (Cartagena Protocol)	2000	2003	170 P
EU Regulation 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species	2014	2015	28 MS
Instruments establishing transboundary protected areas (two examples of many)			
Treaty between Mozambique, South Africa and Zimbabwe on the Establishment of the Great Limpopo Transfrontier Park	2002	2004	3 P
Treaty between Angola, Botswana, Namibia, Zambia and Zimbabwe on the Establishment of the Kavango Zambezi Transfrontier Conservation Area	2011	2012	5 P
Bilateral instruments (one example of many)			
Mexico-United States Convention for the Protection of Migratory Birds and Game Mammals	1936	1937	2 P
<p>Note: The table lists the most prominent global instruments and a wide selection of regional and species-specific instruments, as well as illustrative examples of site-specific and bilateral instruments. All listed instruments are legally binding except the MoUs and SSIs.</p> <p>Source: Data on participation were taken from treaties' websites, Ecolex (www.ecolex.org) and the University of Oregon's International Environmental Agreements Database (http://iea.uoregon.edu).</p> <p>Abbreviations: NA, not applicable; NIF, not in force; MoU, Memorandum of Understanding; MS, member states; P, parties; R, ratifications; RS, range states; S, signatories; SSI, Special Species Initiative.</p>			

less-than-satisfactory contribution of international wildlife law to addressing biodiversity loss reflects at least in part, then, an overall reluctance of governments and societies to impose

long-term and enforceable constraints on economic development and other human ambitions (Wandesforde-Smith 2016). Expectations of what international wildlife law can deliver

must accommodate this reality, especially because some of the competing aspirations may also be backed by legal commitments (e.g., trade agreements). Clearly, besides international

wildlife law, conservation success is also affected by international law addressing climate change, crime, economic integration, fisheries, pollution, and trade.

Opportunities

Regardless, for many species and ecosystems, effective conservation calls for cross-border approaches and long-term commitments. Despite its limitations, international law remains the preeminent mechanism for realizing these (Bowman et al. 2010, Trouwborst 2015, Bowman 2016). Regarding the temporal aspect, international treaties evolve relatively slowly, and states rarely withdraw from treaties once they have joined them. Therefore, treaties can offer a legal buffer against the election-cycle swings of national governance. In a more general sense, international law serves as a moral compass, reminding governments and the public of their commitments to conservation.

International legal instruments have produced many positive conservation outcomes, including (a) the designation of protected areas pursuant to international obligations; (b) similarly instigated national legislation regulating wildlife exploitation; (c) enhanced priority for conservation issues on governments' agendas; (d) incorporation of technical guidance adopted by COPs and other treaty bodies into national action plans and legislation; (e) coordinated collection of data; (f) increased cooperation among and between governmental and nongovernmental stakeholders; (g) direct assistance to conservation initiatives through treaties' funding mechanisms; and (h) many instances in which harmful developments were blocked or particular conservation actions taken when governments were confronted with their international obligations in national or international court proceedings or through compliance mechanisms (Bowman et al. 2010, Gillespie 2011, Fleurke and Trouwborst 2014, Trouwborst 2015, Bowman 2016, Scott 2016).

To illustrate, despite certain limitations and an imperfect compliance record (Wandesforde-Smith 2016, Zhou et al. 2016), CITES tangibly contributes to the conservation of species harmed by trade (OECD 2000, Doukakis 2012, Couzens 2014). For instance, the conservation status of jaguars (*Panthera onca*) and other South American felids notably improved after a CITES ban on trade in their pelts took effect in 1975 (Di Marco et al. 2014). Similarly, the European Union's (EU's) "Nature Directives" are comparatively effective conservation instruments, resulting from both the clear limits they impose on EU member states' discretion and the special nature of EU law, entailing powerful enforcement options at national and European levels (Fleurke and Trouwborst 2014, Born et al. 2015, Milieu et al. 2016). In particular, many species have profited from protection of their habitats in the Natura 2000 protected area network and from restrictions placed on their exploitation (Fleurke and Trouwborst 2014, Sanderson et al. 2015, Boitani and Linnell 2015). Likewise, the Ross Sea ecosystem is likely to benefit from the recent international agreement to designate large parts of it as a marine protected area. Even regimes operating on slim budgets, such as the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) and the Bern Convention on the Conservation of European Wildlife and Natural Habitats, can add real value (Lewis 2016) and sometimes show real teeth (Trouwborst forthcoming).

We concur with Bowman and colleagues (2010) that there is "cause for optimism in the extent to which international wildlife law is permeating national policy discourse, legal instruments, and (slowly) judicial decision-making." International wildlife law is increasingly invoked before national courts—aided by instruments such as the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters—and domestic legislative implementation

and enforcement continue to be scrutinized by international bodies monitoring and promoting compliance with international obligations (Bowman 2010, Scott 2016). Furthermore, we note the growing influence of international courts, as was illustrated by the 2014–2015 Serengeti highway rulings by the East African Court of Justice; the key role of the Court of Justice of the EU in enforcing the Nature Directives; and the increasing number of cases involving wildlife law brought before the International Court of Justice.

Making the most of international wildlife law

The breadth of the opportunities offered by international wildlife law is indicated by the number and variety of legal instruments in table 1. The various ways in which these instruments can contribute to conservation are summarized in figure 1. The usefulness of international wildlife law can thus be maximized in many ways, with diverse actors having a role to play, including civil servants administering or implementing treaties, scientists involved in advisory bodies or monitoring, and NGOs influencing intergovernmental agendas and coaxing or forcing governments into compliance.

We advocate a strategic approach. First, investing in the implementation or improvement of an international regime may not in every instance be the best way to spend scarce conservation resources. Second, international wildlife law instruments present a mixture of approaches and mechanisms; optimizing their conservation impact may call for different methods in different circumstances. When this can be done through facilitation rather than confrontation, without sparking resistance, all the better, because such resistance may undermine long-term support for the legal framework itself (Borgström 2012, Redpath et al. 2017). In certain instances, however, litigation or other adversarial tactics will be essential to ensure compliance, even as we bear in mind that international agreements are *intended* to overrule

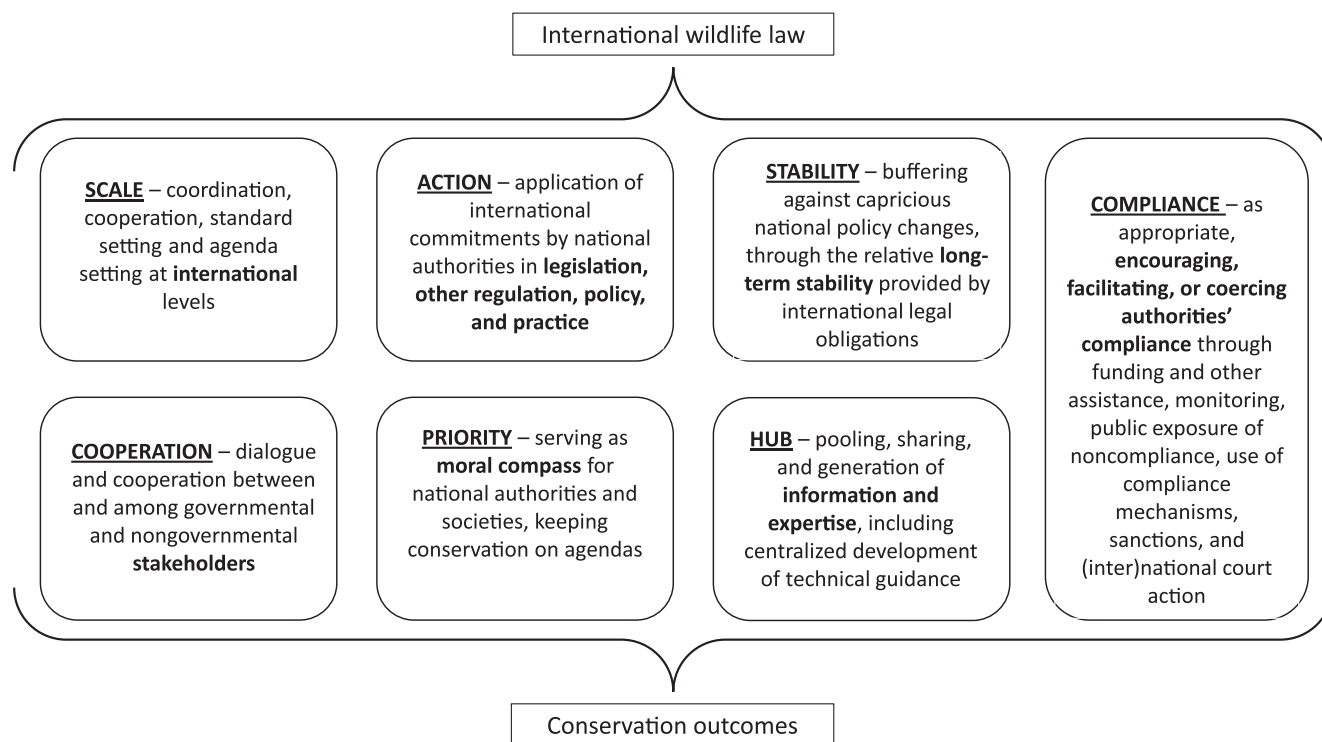


Figure 1. Ways in which international wildlife law can deliver conservation outcomes.

national, regional, and local interests when the latter conflict with the agreement's objectives (Chapron et al. 2017).

A distinct role is reserved for legal experts and expertise, especially in combination with conservation professionals and expertise from other disciplines. There are many situations in which socioecological information can improve the application of conservation law and in which legal information can improve biodiversity conservation. Sometimes, this can be a simple matter of drawing the attention of those on the front lines of conservation to potentially useful legal tools. The books by Bowman and colleagues (2010) and Gillespie (2011) provide good starting points. Another tactic is to remind national authorities and committees drafting domestic conservation laws, policies, or plans of the often-little-known wealth of detailed guidance adopted by COPs. At other times, more intricate and tailored legal exercises will be required. One lesson drawn from past experience is that even apparently vague treaty provisions can have surprisingly

far-reaching consequences when interpreted in light of treaty objectives, interpretive guidance adopted by the parties, and/or scientific knowledge regarding a particular conservation issue (Bowman et al. 2010).

Despite the widespread recognition of the importance of law to wildlife conservation (Freyfogle 2006), legal methodology is still a relatively unfamiliar feature within the multidisciplinary conservation literature and among conservation practitioners (Chapron et al. 2017). International law research methodology consists primarily of the identification, analysis, and application of legal instruments, including their interpretation according to the format codified in the Vienna Convention on the Law of Treaties (1969). Such analysis gains in utility when combined with insights regarding the ecological, socioeconomic, and cultural aspects of the issues involved. It is especially worthwhile when conservationists from other disciplines work with international wildlife lawyers to clarify the implications of international instruments for given issues;

to identify gaps and inconsistencies in the legal framework; and, above all, to identify and pursue avenues toward improving the application of the law and, where needed, the law itself. This includes improving our insight into the role of law regarding conservation conflicts and our understanding of when it is most effective to use the full weight of the law rather than taking a more cooperative approach (Redpath et al. 2015, Redpath et al. 2017). International wildlife law litigation itself is also typically a multidisciplinary undertaking. Other appropriate settings for said cooperation include wildlife regimes' technical and advisory bodies, International Union for Conservation of Nature (IUCN) Specialist Groups, and Society for Conservation Biology (SCB) policy committees. For instance, the idea to develop AWEA's Implementation Review Process (established by AWEA Resolution 4.6) originated from a lawyer, but the agreement's multidisciplinary Technical Committee is involved in assessing whether proposed cases are appropriate, and initiation of

the process may result in onsite assessments by multidisciplinary teams of experts. Another example is the Scientific and Technical Review Panel of the Ramsar Convention, which has a distinctly multidisciplinary membership and is currently chaired by an international wildlife lawyer.

Examples of joint research include Cliquet and colleagues (2009), addressing climate change adaptation; Beninde and colleagues (2015), addressing invasive alien species; Trouwborst and colleagues (2015), addressing the legal status of golden jackals (*Canis aureus*) colonizing countries beyond their historic range; Epstein and colleagues (2016) and Trouwborst and colleagues (2017), addressing the Habitats Directive's "favourable conservation status" concept; Selier and colleagues (2016), addressing the management of a transboundary elephant population; Linnell and colleagues (2016), addressing border security fences; and Redpath and colleagues (2017), addressing collaborative approaches to large carnivore conservation. Of course, to make a meaningful contribution, such research must—and fortunately, regularly does—find its way into practice. For instance, the jackal research was undertaken in response to confusion regarding the species' legal status in countries without historic records, such as the Baltic states. Specifically, the study mapped the jackal's remarkable range expansion beyond its historic distribution and combined this with an interpretive analysis of the international legal framework. This multidisciplinary analysis demonstrated that, legally speaking, the jackals ought to be treated as part of Europe's dynamic native fauna rather than as an alien species and was instrumental in the jackal's removal from several countries' alien species lists.

Conclusions

With their long-term, legally binding commitments on a transboundary scale, international legal instruments can be important, sometimes-indispensable implements in the conservation

toolbox. Having explored why international wildlife law matters and what can and cannot be expected of it, we are convinced that by joining forces, lawyers and other conservation professionals can improve the contribution of international wildlife law to biodiversity conservation. There is much to be gained, partly by enhancing the legal framework itself but especially by seizing the many opportunities offered for advancing the effective application of the law as it stands. We hope that this article can be a useful step along this path.

Acknowledgments

We gratefully acknowledge valuable input by Kees Bastmeijer, Sanja Bogojevic, Jennifer Dubrulle, and Han Somsen.

References cited

- Beninde J, Fischer ML, Hochkirch A, Zink A. 2015. Ambitious advances of the European Union in the legislation of invasive alien species. *Conservation Letters* 8: 199–205.
- Boitani L, Linnell JDC. 2015. Bringing large mammals back: Large carnivores in Europe. Pages 67–84 in Pereira HM, Navarro LM, eds. *Rewilding European Landscapes*. Springer.
- Borgström S. 2012. Legitimacy issues in Finnish wolf conservation. *Journal of Environmental Law* 24: 451–476.
- Born C, Cliquet A, Schoukens H, Misonne D, Van Hoorick G, eds. 2015. *The Habitats Directive in Its EU Environmental Law Context*. Routledge.
- Bowman M. 2000. The effectiveness of international nature conservation agreements. Pages 105–151 in Anker HT, Basse EM, eds. *Land Use and Nature Protection*. Djøf.
- . 2016. Law, legal scholarship and the conservation of biological diversity: 2020 vision and beyond. Pages 3–54 in Bowman M, Davies P, Goodwin E, eds. *Research Handbook on Biodiversity and Law*. Edward Elgar.
- Bowman M, Redgwell C, Davies P. 2010. *Lyster's International Wildlife Law*, 2nd ed. Cambridge University Press.
- Chapron G, Epstein Y, Trouwborst A, López-Bao JV. 2017. Bolster legal boundaries to stay within planetary boundaries. *Nature Ecology and Evolution* 1 (art. e0086).
- Cliquet A, Backes C, Harris J, Howsam P. 2009. Adaptation to climate change: Legal challenges for protected areas. *Utrecht Law Review* 5: 158–175.
- Couzens E. 2014. *Whales and Elephants in International Conservation Law and Politics*. Routledge.
- Di Marco M, Boitani L, Mallon D, Hoffman M, Iacucci A, Meijaard E, Visconti P, Schipper J, Rondinini C. 2014. A retrospective evaluation of the global decline of carnivores and ungulates. *Conservation Biology* 28: 1109–1118.
- Doukakis P, Pikitch EK, Rothschild A, DeSalle R, Amato G, Kolokotronis S. 2012. Testing the effectiveness of an international conservation agreement. *PLOS ONE* 7 (art. e340907).
- Epstein Y, López-Bao JV, Chapron G. 2016. A legal-ecological understanding of favorable conservation status for species in Europe. *Conservation Letters* 9: 81–88.
- Fleurke FM, Trouwborst A. 2014. European regional approaches to the transboundary conservation of biodiversity. Pages 128–162 in Kotze L, Marauhn T, eds. *Transboundary Governance of Biodiversity*. Martinus Nijhoff.
- Freyfogle ET. 2006. Conservation biology and law: Only a start. *Conservation Biology* 20: 679–680.
- Gillespie A. 2011. *Conservation, Biodiversity and International Law*. Edward Elgar.
- Lewis M. 2016. AEWA at twenty: An appraisal of the African-Eurasian Waterbird Agreement and its unique place in international environmental law. *Journal of International Wildlife Law and Policy* 19: 22–61.
- Linnell JDC, et al. 2016. Border security fencing and wildlife: The end of the transboundary paradigm in Eurasia? *PLOS Biology* 14 (art. e1002483).
- López-Bao JV, et al. 2015. Toothless wildlife protection laws. *Biodiversity and Conservation* 24: 2105–2108.
- Milieu Ltd, Institute for European Environmental Policy, ICF International and Ecosystems Ltd. 2016. *Evaluation Study to Support the Fitness Check of the Birds and Habitats Directives*. European Commission.
- [OECD] Organisation for Economic Co-operation and Development. 2000. *Trade Measures in Multilateral Environmental Agreements*. OECD.
- Ostrom E, Burger J, Field CB, Norgaard RB, Policansky D. 1999. Revisiting the commons: Local lessons, global challenges. *Science* 284: 278–282.
- Redpath SM, Gutiérrez RJ, Wood KA Young JC, eds. 2015. *Conflicts in Conservation: Navigating Towards Solutions*. Cambridge University Press.
- Redpath SM, et al. 2017. Don't forget to look down—Collaborative approaches to predator conservation. *Biological Reviews* 92: doi:10.1111/brv.12326
- Sanderson FJ, et al. 2015. Assessing the performance of EU nature legislation in protecting target bird species in an era of climate change. *Conservation Letters* 9: 172–180.
- Scott KN. 2016. Non-compliance procedures and the implementation of commitments under wildlife treaties. Pages 414–436 in Bowman M, Davies P, Goodwin E, eds. *Research Handbook on Biodiversity and Law*. Edward Elgar.

- Selier SAJ, Slotow R, Blackmore A, Trouwborst A. 2016. The legal challenges of transboundary wildlife management at the population level: The case of a trilateral elephant population in southern Africa. *Journal of International Wildlife Law and Policy* 19: 101–135.
- Trouwborst A. 2015. Global large carnivore conservation and international law. *Biodiversity and Conservation* 24: 1567–1588.
- Trouwborst A. Forthcoming. Large carnivore conservation under the Bern Convention, with special reference to the Balkan lynx. *Cat News*.
- Trouwborst A, Krofel M, Linnell JDC. 2015. Legal implications of range expansions in a terrestrial carnivore: the case of the golden jackal (*Canis aureus*) in Europe. *Biodiversity and Conservation* 24: 2593–2610.
- Trouwborst A, Boitani L, Linnell JDC. 2017. Interpreting “favourable conservation status” for large carnivores in Europe: How many are needed and how many are wanted? *Biodiversity and Conservation* 26: 37–61.
- Wandesforde-Smith G. 2016. Looking for law in all the wrong places? Dying elephants, evolving treaties, and empty threats. *Journal of International Wildlife Law and Policy* 19: 365–381.
- Zhou Z, Newman C, Buesching CD, Meng X, Macdonald DW, Zhou Y. 2016. Revised taxonomic binomials jeopardize protective wildlife legislation. *Conservation Letters* 9: 313–315.
-
- Arie Trouwborst (a.trouwborst@tilburguniversity.edu) is affiliated with the Department of European and International Public Law at Tilburg University, in The Netherlands. Andrew Blackmore is affiliated with Scientific Services, Ezemvelo KZN Wildlife, in Cascades, South Africa. Luigi Boitani is affiliated with the Department of Biology and Biotechnology at the Sapienza University of Rome, in Italy. Michael Bowman is affiliated with the Treaty Center in the School of Law at the University of Nottingham, in the United Kingdom. Richard Caddell is affiliated with the Netherlands Institute for the Law of the Sea at Utrecht University, in The Netherlands. Guillaume Chapron is affiliated with the Grimsö Wildlife Research Station at the Swedish University of Agricultural Sciences, in Riddarhyttan. An Cliquet is affiliated with the Department of European, Public, and International Law at Ghent University, in Belgium. Ed Couzens is affiliated with the Australian Centre for Climate and Environmental Law, Sydney Law School, at the University of Sydney, in Australia. Yaffa Epstein is affiliated with the Department of Law at Uppsala University, in Sweden. Eladio Fernández-Galiano is affiliated with the Council of Europe, in Strasbourg, France. Floor M. Fleurke is affiliated with the Department of European and International Public Law at Tilburg University, in The Netherlands. Royal Gardner is affiliated with the Institute for Biodiversity Law and Policy at Stetson University, in Gulfport, Florida. Luke Hunter is affiliated with Panthera, in New York, New York. Kim Jacobsen is affiliated with the Wildlife Conservation Research Unit (WildCRU) at University of Oxford, in Tubney, the United Kingdom. Miha Krofel is affiliated with the Department of Forestry at the University of Ljubljana, in Slovenia. Melissa Lewis is affiliated with the Department of European and International Public Law at Tilburg University, in The Netherlands. José Vicente López-Bao is affiliated with the Research Unit of Biodiversity at Oviedo University, in Mieres, Spain. David Macdonald is with the Wildlife Conservation Research Unit (WildCRU) at University of Oxford, in Tubney, United Kingdom. Stephen Redpath is with the Institute of Biological and Environmental Sciences at the University of Aberdeen, in the United Kingdom. Geoffrey Wandesforde-Smith is with the Department of Political Science at the University of California, Davis. John D. C. Linnell is affiliated with the Norwegian Institute for Nature Research (NINA), in Trondheim.

doi:10.1093/biosci/bix086