THE WORLD HERITAGE CONVENTION, PROTECTED AREAS AND RIVERS: CHALLENGES FOR REPRESENTATION AND IMPLICATIONS FOR INTERNATIONAL WATER COOPERATION

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ABSTRACT

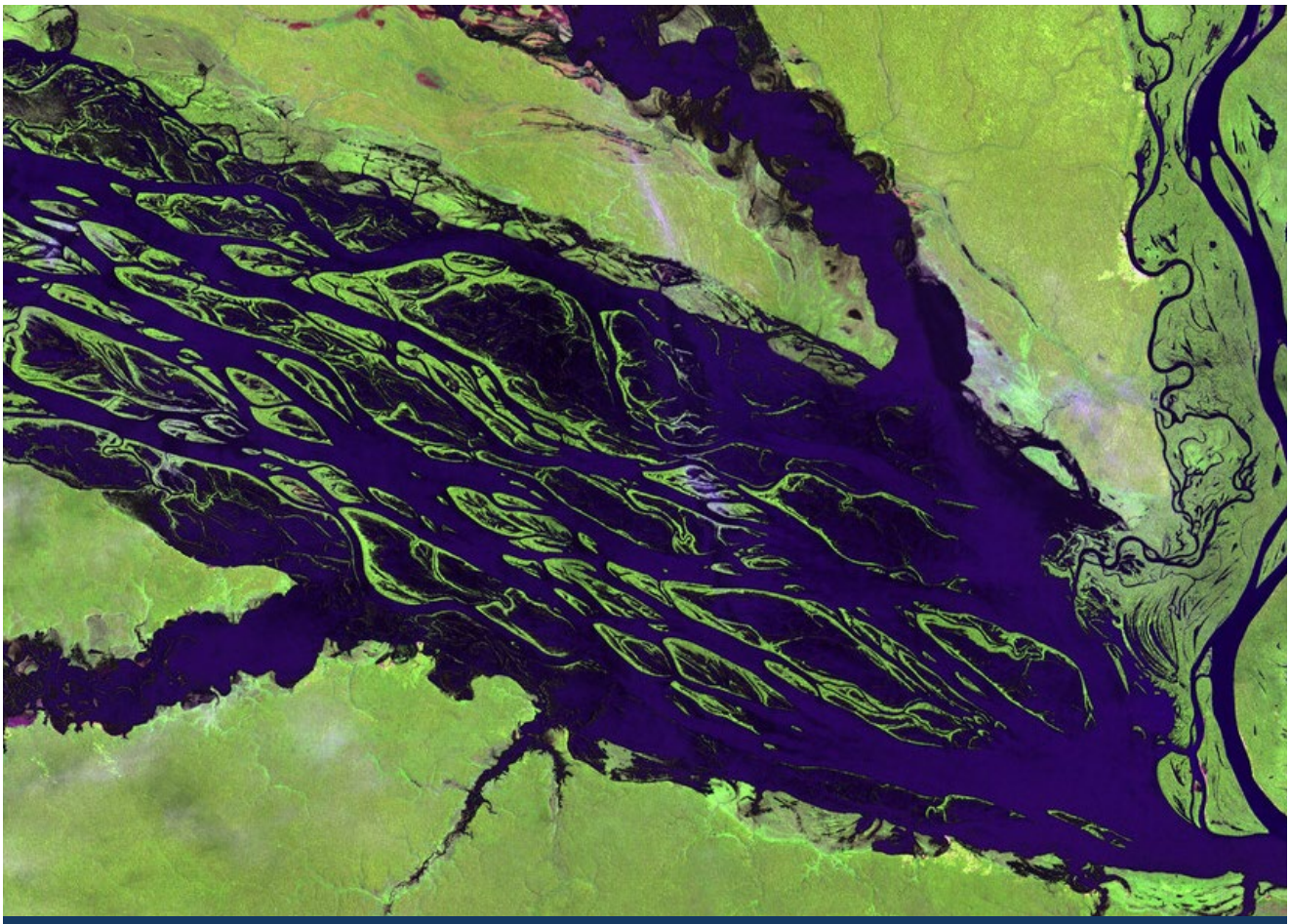
Given the dire state of health of rivers worldwide and their significant heritage values, there is a need to consider their current representation in protected areas inscribed under the World Heritage Convention and identify challenges and opportunities for increasing their coverage. This study identifies a total of 153 natural, mixed natural/cultural and cultural landscape World Heritage sites that recognise rivers as a source of Outstanding Universal Value. There are challenges associated with the recognition of river sites as World Heritage, but further nominations could be encouraged through amendments to the World Heritage Convention Operational Guidelines to allow greater discretion to be exercised in relation to integrity requirements at inscription and to explicitly acknowledge freshwater use as a basis for recognising mixed natural/cultural and cultural landscape sites. There is also an opportunity to encourage further nomination of river sites by recognising the important implications of World Heritage inscription for international water cooperation. Together, these recommendations provide a path forward for enhancing the place of rivers in World Heritage protected areas.

Key words: natural heritage, cultural landscapes, freshwater conservation, law, UN Watercourses Convention, transboundary watercourses

INTRODUCTION

Rivers are amongst the most threatened ecosystems on Earth (Dudgeon et al., 2006). Their extraordinary biodiversity is in rapid and accelerating decline (Harrison et al., 2018), having been severely impacted by a range of intersecting and compounding threats, including water resources development, pollution, and excessive withdrawal of water for irrigation (Vörösmarty et al., 2010). As such, there is a need to identify the current representation of rivers within international protected area (PA) frameworks and consider barriers and opportunities to increase their coverage. In addition to the international PA treaties most commonly associated with freshwater protection, the 1971 Ramsar Convention and the 1992 Convention on Biological Diversity (CBD), the 1972 World Heritage Convention (WHC) also makes significant contributions to the protection of freshwater ecosystems. The WHC requires the protection of natural and cultural heritage which is of Outstanding Universal Value (OUV). Inscription as natural, mixed natural/cultural and cultural landscape World Heritage (WH) generally imposes stringent ecological protection obligations (WHC, arts. 4–5) and can provide significant positive conservation benefits for protected sites (Thorsell, 2003).

This study examines the natural, mixed natural/cultural and cultural landscape WH sites inscribed in the World Heritage List to determine current representation of rivers where they are recognised as source of OUV. Rivers have strong historical connections to WH, but these connections often concern river-related threats to WH, rather than the heritage values of rivers themselves. For example, the construction of the Aswan Dam on the Nile in the 1960s sparked an international movement, led by UNESCO, to protect ancient monuments at Abu Simbel from inundation, leading to the adoption of the WHC in 1972 (Meyer, 1976). While threats posed by dams to WH are well recognised (Albert et al., 2022;



Central Amazon Conservation Complex. © U.S. Geological Survey, Department of the Interior/USGS.

IUCN, 2015), less attention has been paid to rivers as WH themselves. This paper addresses this issue. Challenges associated with protection and management of river WH sites are considered, recommendations are made to amend the WHC Operational Guidelines (UNESCO, 2023a) to encourage the nomination of more river WH sites, and the implications of river WH sites for international water cooperation are analysed. Together, this analysis suggests pathways for recognition of more river sites as WH.

Rivers and protected areas

The representation of freshwater ecosystems in PAs has garnered increasing attention over the past 50 years. The 1971 Ramsar Convention requires State parties to designate appropriate delimited wetlands (including river sites) in their territory and promote their conservation (arts. 2–3). The 1992 CBD requires State parties to establish PAs to conserve biodiversity (art. 8). The CBD Conference of the Parties has also adopted targets to extend coverage of PAs over rivers and other freshwater ecosystems. The 2010 Aichi Targets called for at least 17 percent of the world's "terrestrial and inland water … areas" to be conserved through PAs (or other effective area-based conservation measures) by 2020 (CBD COP 10, 2010, Target 11). In 2022, the Kunming-Montreal Global Biodiversity Framework (KM-GBF) increased this to a global target for 30 per cent of "terrestrial, [and] inland water … areas" to be conserved by 2030 (CBD COP 15, 2022, Target 3). This target puts "more emphasis on the need to protect inland waters in their own right" (Flitcroft et al., 2023, p. 1), and calls for a "radical increase" in the inclusion of freshwater ecosystems in PAs (The Nature Conservancy et al., 2022, p. 1). A historical lack of progress in establishing more freshwater PAs has contributed to a dramatic decline in freshwater ecosystem biodiversity worldwide (Flitcroft et al., 2023).

The adoption of the terminology 'terrestrial and inland water areas' in the Aichi Targets and KM-GBF has resulted in prominent assessments reporting land and inland water PA coverage together as an aggregate. For example, the Protected Planet Report (UNEP-WCMC & IUCN, 2021) provides data only in respect of 'terrestrial' and 'marine' PA coverage, with the terms 'terrestrial' and 'land and inland waters' sometimes used interchangeably. Likewise, the World Database on Protected Areas reports 'terrestrial and inland waters' PA coverage (IUCN & UNEP-WCMC, 2023). There has also

been a pronounced focus on terrestrial and marine areas in assessments of PA efficacy (Abell et al., 2017; Watson et al., 2014).

Despite inherent difficulties in assessing inland water PA coverage (Bastin et al., 2019; Chape et al., 2008), some studies have reported PA coverage of inland waters, including rivers, independently. Opperman et al. (2021) report that 1.9 million km of rivers, or 16 per cent of global river length, lies within PAs. Abell et al. (2017) report that 13.5 per cent of world's rivers are subject to "integrated protection", which includes PA coverage. These studies, however, do not identify the legal instruments under which the PAs are established. Some studies have assessed river coverage by Ramsar PAs, including Chape et al. (2008) who report 127 Ramsar river sites. It is notable in this context that 68 WH properties overlap with Ramsar sites (UNESCO, 2023d). However, there is currently no assessment of the representation of rivers within WHC PAs.

The World Heritage Convention and protected areas

The WHC is a multilateral treaty which has enjoyed an exceptionally high level of adoption, with 195 parties to date (UNESCO, 2023b). The WHC requires the protection of the world's natural and cultural heritage of OUV. Sites of OUV feature "cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity" (UNESCO, 2023a, ss. 49, 52). The WHC obliges State parties to identify, protect and preserve WH (WHC, arts. 4–6, 12). World Heritage sites can be inscribed on the WH List as natural or cultural WH, or both (WHC, arts. 1–2, 11). Sites which represent the "combined works of nature and of man" can also be recognised as cultural landscapes (UNESCO, 2023a, s. 47). Sites are inscribed according to a determination of OUV, assessed by reference to ten criteria (UNESCO, 2023a, s. 77(i)–(x)). In addition to meeting at least one criterion, sites must satisfy integrity requirements (UNESCO, 2023a, ss. 78, 87–95), and additional authenticity requirements if proposed as a cultural WH site (ICOMOS, 1994; UNESCO, 2023a, ss. 78–86). Each site must have an adequate protection and management system to ensure maintenance of OUV (UNESCO, 2023a, ss. 78, 96–118bis).

World Heritage protection of freshwater ecosystems has important implications for biodiversity protection. While there are limited studies on freshwater biodiversity coverage across WH sites, it is estimated that they harbour roughly 40 per cent of the world's freshwater fish species and roughly 23 per cent of globally threatened freshwater fish species (see Carvalho Resende et al., 2023). Protection of freshwater biodiversity in WH sites has led to a focus on constraining the damaging effects of dams. Erkan (2022) reports it is believed that dams threaten or affect at least 20 per cent of all natural WH sites, where they have changed river flows and reduced wetland coverage (IUCN, 2015). The WH Committee has emphasised that building dams with large reservoirs within the borders of WH sites is incompatible with the WHC's protection requirements, and it has also urged parties to rigorously assess upstream and downstream impacts to protect the OUV of potentially affected sites (World Heritage Committee, 2016). These concerns have also led to industry initiatives. In 2021, the International Hydropower Association announced a commitment on behalf of its members to refrain from any future dam development within WH sites and to implement a duty of care in relation to new water resource developments within PAs (International Hydropower Association, 2021).

It is important to note that not all kinds of WH relate to ecological protection in the same way. Many, but not all, WH sites are classified as PAs. The IUCN defines a protected area as:

> *"A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley, 2008, p. 8).*

"Virtually all" natural WH sites are PAs (Dudley, 2008, p. 70), including mixed natural/cultural sites, but only a small number of cultural WH sites qualify (Dudley, 2008; Stolton et al., 2013; The Nature Conservancy et al., 2022). However, a high proportion of cultural landscapes conceptually and spatially overlap with PAs (Dudley, 2008; Finke, 2013). On this basis, cultural landscapes are included within the scope of this study. WH sites that are PAs will generally have already met the definition of a PA before their nomination. Inscription as WH provides international PA protection in addition to pre-existing domestic protections. Cultural WH sites which are not classified as cultural landscapes have been excluded from this study, although it is important to note that there are links between cultural WH and ecological conservation (Boer, 2020).

METHODS

A review of all natural, mixed natural/cultural and cultural landscape WH sites was undertaken to identify sites which recognise rivers (or parts thereof) as a source

Okavango Delta, Botswana © Wynand Uys

of OUV. For each site, the Statement of OUV, which is the "key reference for the future effective protection and management of the property" (UNESCO, 2023a, ss. 51, 154–155), was text-searched for the words "river", "stream", "creek", "río", "basin", "wetland", "waterfall", "watershed", "watercourse", "delta", and "aquatic". For properties which do not currently have a Statement of OUV (for example, Danube Delta), the same search terms were applied to (1) the site description available on the WH online database (UNESCO, 2023c), and (2) the relevant inscription decision. For each property that returned a positive result, the relevant site map on the WH online database (UNESCO, 2023c) (where available) was consulted to confirm that a river was included within the site boundary. Then, a determination was made whether the river contributed to OUV by assessing whether (1) the positive search terms related to a river and not a different body of water, such as a lake[1]; and (2) there was a thematic connection between the river and the applicable OUV criteria and criteria narratives. Sites were excluded if a river was merely referenced to provide geographical context, such as defining a site boundary[2].

For the purposes of this analysis, 'river' is defined according to the most prevalent international legal definition, being the 'watercourse'. Under the UN Watercourses Convention, a watercourse is "a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus" (UN Watercourses Convention, art. 2(a)). Other freshwater bodies which are not watercourses, such as lakes and wholly subterranean rivers, were excluded.

RESULTS

There are currently 227 natural sites, 39 mixed natural/cultural sites and 127 cultural landscape sites on the WH List. In this study (see supplementary materials for more information), application of the above method identified that rivers are recognised as a source of OUV in 153 WH sites: 106 natural sites, 17 mixed natural/cultural sites, and 33 cultural landscape sites (three of which are also mixed natural/cultural sites). Ninety river sites meet OUV criterion (x), as they contain "the most important and significant natural habitats for in-situ conservation of biological diversity" (UNESCO, 2023a, s. 77(x)). Seventy-three river sites meet OUV criterion (ix), which recognises "significant on-going ecological and biological processes in the evolution and development of … fresh water … ecosystems and communities of plants

and animals" (UNESCO, 2023a, s. 77(ix)). Seventy-two river sites meet OUV criterion (vii), as they "contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance" (UNESCO, 2023a, s. 77(vii)).

There is a large degree of variation across WH sites in respect of protected river area. No WH site is reported to protect an entire large river system at the catchment level. However, some WH sites do cover significant sections of large rivers. This includes the Kakadu National Park, which "incorporates significant elements of four major river systems" and is unique in "protecting almost the entire catchment of a large tropical river" (World Heritage Committee, 2013, pp. 58–59). In a new development, the Vjosa River in Albania has been proposed as a UNESCO Man and Biosphere reserve, the boundaries of which will protect the entire river basin (Wibaux, 20 April 2023). However, it is unclear whether the river will be proposed as a WH site. In contrast, some natural WH sites protect only small sections of large rivers. In the Three Parallel Rivers of Yunnan site, one of only three WH sites to include the word 'river' in its title, "large sections" of the Jinsha, Lancang and Nu Jiang rivers lie just outside the property boundary (World Heritage Committee, 2003, p. 100).

Cultural landscape WH sites identified in this study also make important contributions to the protection of rivers. The Wachau Cultural Landscape covers parts of the mainstream of the Danube, the world's most international river. The Loire Valley between Sully-sur-Loire and Chalonnes, the largest WH site in France, protects large sections of the Loire River, often termed one of the last wild rivers in Europe (Hassan, 2003; Tremblay, 2002).

DISCUSSION

Challenges for representation

These results show that rivers are represented in many WH sites. However, it is important to note that there are challenges associated with inscribing river sites as WH and their subsequent protection and management. Firstly, maintaining the integrity of river sites requires highly comprehensive protection measures. Secondly, integrity requirements may prevent many rivers from consideration as WH, as rivers worldwide are in particularly poor state of health. Finally, OUV criteria for mixed natural/cultural and cultural landscape sites fail to make specific provision for human interactions with freshwater.

Rivers are highly sensitive to anthropogenic impacts, including over long-distances (Meybeck & Helmer, 1989; Vörösmarty et al., 2010). This creates challenges for river PA management, as rivers are particularly susceptible to impacts from outside of PA boundaries (Mancini et al., 2005; Nel et al., 2009). To ensure effective river conservation, PAs ought to be established at the catchment scale (Pittock et al., 2015), or form part of a tailored multi-zoned system of conservation measures (Abell et al., 2007). Failure to establish sufficiently stringent protections can lead to the PA having no or very low impact on water quality (dos Santos Mollmann et al., 2022) and biodiveristy outcomes (Acreman et al., 2019). For WH properties, this can require implementing protections for related ecosystems beyond the PA boundary, even if these related ecosystems would not qualify as WH (Boer, 2023; UNESCO, 2023a, s. 92). Therefore, even a WH site which protects a small section of river will require extensive protections beyond site boundaries, which may act as a disincentive to proposing river sites. This challenge may explain why many river WH sites are located far away from major industrial areas (for example, the Central Amazon Conservation Complex) or in the upstream reaches of rivers (for example, the Great Himalayan National Park Conservation Area), where the impacts of anthropogenic stressors are generally less apparent.

Integrity requirements also present potential barriers to the proposal of river WH sites. Integrity is defined as "a measure of wholeness and intactness of the natural and/or cultural heritage and its attributes" (UNESCO, 2023a, s. 88). To qualify as natural WH, a site's "bio-physical processes and landform features should be relatively intact", and, for cultural landscapes, the significant features of the site "should be in good condition" (UNESCO, 2023a, ss. 89–90). However, the WHC Operational Guidelines acknowledge that "no area is totally pristine and that all natural areas are in a dynamic state, and to some extent involve contact with people" (UNESCO, 2023a, s. 90). While this statement suggests some flexibility in the application of integrity requirements, it is unlikely to allow sufficient space for consideration of many of the world's rivers, given their largely degraded state (Vörösmarty et al., 2010). Concerns regarding meeting integrity requirements have been raised by State parties in relation to proposed river WH sites, including Myanmar's Ayeyawady River Corridor site (Ministry of Environmental Conservation and Forestry of the Republic of the Union of Myanmar, 2014) and Kenya's Tana Delta and Forests Complex (Kenya Wildlife Service, 2010). The inclusion of an explicit statement in the WHC Operational Guidelines which provides a greater degree of flexibility to the WH Committee in applying the integrity test to sites which have the potential to meet the integrity threshold in

Wachau Cultural Landscape, Austria © Mario Schenk

the future but are not currently 'relatively intact' or in 'good condition', would allow for greater recognition of river sites. Care would need to be taken to ensure that appropriate undertakings for improving the integrity of the site were received, and that such discretion was only available for the inscription of sites, not the protection and management of WH generally.

OUV criteria also present a potential challenge to the recognition of river sites as WH on the basis of human use of freshwater. Criterion (v), which may be recognised for mixed natural/cultural and cultural landscape WH, states that a site should "be an outstanding example of a traditional human settlement, land-use, or sea-use …" (UNESCO, 2023a, s. 77(v)). Notably omitted from this list is freshwater use. This omission is surprising, as the oldest recognised cultural landscape in the world, Mount Wuyi (Wuyishan) in China, is a river site (Mitchell et al., 2009). It is also surprising given that IUCN's evaluation of cultural landscapes should address sustainable water use where relevant (UNESCO, 2023a, Annex 6, s C8(iii)). An amendment to criterion (v) to explicitly include freshwater use could more clearly indicate the eligibility of river sites as mixed natural/cultural and cultural landscape WH.

Implications for transboundary water cooperation

River WH sites have important implications for transboundary water cooperation. In circumstances where a WH site includes part of a transboundary river (for example, the Danube Delta, Sundarbans and Sundarbans National Park sites and others), the protection of the site becomes more complex. While the WHC has had some resounding successes in constraining damaging domestic impacts on rivers (for example, in the Tasmanian Wilderness site)[3],WHC sites on international rivers have particular vulnerabilities: not only do they require domestic protections to control domestic impacts, but they are also vulnerable to transboundary impacts originating from the territory of other States. The WHC imposes a number of obligations for the international protection of WH. Under article 6, State parties recognise that in the protection of WH "it is the duty of the international community as a whole to co-operate", while respecting each party's territorial sovereignty (WHC, art. 6.1). All parties also undertake to "give their help" in the protection of WH sites if requested to do so by the State within which the site is located (WHC, art. 6.2). In addition, State parties

undertake "not to take any deliberate measures which might damage directly or indirectly World Heritage situated in the territory of other State parties" (WHC, art. 6.3). This may conversely require States to take positive steps to prevent damaging effects originating in their territory from harming WH in the territory of other States (Forrest, 2010). The WHC Operational Guidelines also state that parties shall complete heritage and environmental impact assessments for developments which have potential direct, indirect, or cumulative impacts on the OUV of WH sites, including those in the territory of other States (UNESCO, 2023a, s. 118bis; World Heritage Committee, 2016). The WH Committee has requested several State parties to cooperate to ensure that no action will be taken that threatens the OUV or integrity of WH sites across national borders, including in respect of sites in the Democratic Republic of the Congo (World Heritage Committee, 2005) and the Lake Turkana site in Kenya. These obligations have broader implications for transboundary water cooperation.

The shared use of transboundary rivers is governed by the law of international watercourses, the substantive obligations of which are reflected in the UN Watercourses Convention. Although the UN Watercourses Convention has relatively few ratifications, many of its provisions are an authoritative statement of customary law (McCaffrey, 2008; Rieu-Clarke, 2013), including the principle of equitable and reasonable utilisation (Danube Dam Case) and the obligation to not cause significant transboundary harm (Pulp Mills Case; San Juan River Case). These obligations apply to all States, regardless of whether they have ratified the UN Watercourses Convention, with the arguable exception of States which have persistently objected to them (Fisheries Case; Sands et al., 2012; Cassese, 2005), of which there are a small number (United Nations General Assembly, 1997). However, all persistent objectors to the UN Watercourses Convention have ratified the WHC (United Nations, 2023).

Together with the UN Watercourses Convention, the WHC has promise in its potential to protect transboundary rivers, particularly from the effects of dams. In ordinary circumstances, the shared use of a river which has a WHC site is governed by both the UN Watercourses Convention and the WHC. However, the operation of two Conventions is not the same. Under the UN Watercourses Convention, water resources development will be permissible if it is consistent with equitable utilisation of the watercourse and its adequate protection and does not cause significant harm to another State (UN Watercourses Convention, arts. 5–7, 20). The WHC imposes more direct obligations in respect of dams, prohibiting deliberate measures which might directly or indirectly damage WH across borders (WHC, art. 6.3). While this obligation may seek to constrain water resources development more explicitly, the WHC, unlike the UN Watercourses Convention, does not establish any platform for the resolution of disputes, nor does it establish any enforcement mechanisms (Green Martínez, 2013; Hamman & Hølleland, 2023). A breach of WHC obligations leads to "no legal penalty, sanction or remedy provided under the Convention" (Boer & Wiffen, 2006, p. 70). While the customary law of international responsibility could potentially provide an avenue to enforce WHC obligations (Forrest, 2010), no State has ever been found responsible for a breach of article 6 (Green Martínez, 2013).

The most influential tools available to achieve compliance with the WHC are available to the WH Committee (Forrest, 2010). In response to an actual or potential breach of the WHC, the WH Committee can take a number of steps to influence State party behaviour, including placing a site on the World Heritage in Danger List (WHC, art. 11.4), which could involve "naming and shaming" State parties (Hølleland et al., 2019). However, the results of this approach are variable and have not always resulted in increased compliance (Morrison et al., 2020). If a site is damaged to the extent that its heritage attributes are lost, the WH Committee can remove it from the WH List (UNESCO, 2023a, Ch. IV.C). The WH Committee may also decide to withhold funding and support from State parties, where appropriate. Through these measures, the WH Committee is able to impose significant pressure on parties to comply with the WHC (Forrest, 2010) and can create a degree of 'compliance pull' to draw parties into conformance with WHC obligations (Franck, 1990; Goodwin, 2009).

Where a WH site protects part of a transboundary river, each of the above measures may have an impact upon the conduct and outcomes of transboundary water negotiations. The UN Watercourses Convention obligations under articles 5–7, the WHC prohibition on deliberate measures under article 6.3 and exercise of the WH Committee tools outlined above have the combined potential to, in some cases, constrain water resource development where it would damage a WH site across national borders. In this respect, the WHC shows promise in its potential to achieve enhanced protection of transboundary rivers.

CONCLUSION

Rivers are critically threated, and PAs established under the WHC provide an avenue for their enhanced protection. Of the 227 natural, 39 mixed natural/cultural,

and 127 cultural landscape WH sites currently on the WH List, this study identifies a total of 153 sites that recognise rivers as a source of Outstanding Universal Value. While this shows that rivers are reflected in many WH PAs, there are challenges associated with increasing river coverage. PA design and management is complicated for freshwater ecosystems, often requiring very large sites or multiple tailored management zones. Integrity requirements in the WHC Operational Guidelines also present a barrier for recognising rivers as WH, as a large proportion of rivers around the world are in a dire state of health. Allowing a greater degree of flexibility in applying integrity criteria at inscription would allow room for increased recognition of rivers as WH. Addressing the current omission of human connections to freshwater in OUV criteria would also encourage more river site nominations.

It is also important to recognise that river WH sites can have significant implications for the shared use of transboundary rivers. Each of these recommendations provide steps towards encouraging WHC State parties to nominate and protect more river sites as WH.

ENDNOTES

[1] On this basis, the findings exclude a number of lake WH sites which do not recognise rivers as a source of OUV, but rely upon rivers for maintenance of the site's OUV. These include *Lake Turkana National Parks* and *Lake Baikal*.

[2] An example is the *Dja Faunal Reserve*.

[3] In the Australian High Court case *Commonwealth v Tasmania* the Australian Federal Government successfully constrained the Tasmanian Government from approving the construction of a dam on the Franklin River in the Tasmanian Wilderness WH site.

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RESUMEN

Dado el grave estado de salud de los ríos en todo el mundo y sus importantes valores patrimoniales, es necesario considerar su representación actual en las áreas protegidas inscritas en la Convención del Patrimonio Mundial de 1972 e identificar los retos y oportunidades para aumentar su cobertura. Este estudio identifica un total de 153 sitios del Patrimonio Mundial naturales, mixtos naturales/culturales y de paisajes culturales que reconocen los ríos como fuente de Valor Universal Excepcional. El reconocimiento de los sitios fluviales como Patrimonio Mundial plantea algunos retos, pero podrían fomentarse nuevas candidaturas mediante la modificación de las Directrices Prácticas de la Convención del Patrimonio Mundial para permitir una mayor discrecionalidad en relación con los requisitos de integridad en el momento de la inscripción y reconocer explícitamente el uso del agua dulce como base para el reconocimiento de los sitios de paisajes mixtos naturales/culturales y culturales. También existe la oportunidad de fomentar la nominación de más sitios fluviales reconociendo las importantes implicaciones de la inscripción en el Patrimonio Mundial para la cooperación internacional en materia de agua. En conjunto, estas recomendaciones ofrecen un camino a seguir para mejorar el lugar de los ríos en las áreas protegidas del Patrimonio Mundial.

RÉSUMÉ

Compte tenu de l'état de santé désastreux des rivières dans le monde et de leurs valeurs patrimoniales significatives, il est nécessaire d'examiner leur représentation actuelle dans les zones protégées inscrites au titre de la Convention du patrimoine mondial de 1972 et d'identifier les défis et les possibilités d'accroître leur couverture. Cette étude identifie un total de 153 sites du patrimoine mondial naturels, mixtes naturels/culturels et de paysages culturels qui reconnaissent les rivières comme une source de valeur universelle exceptionnelle. La reconnaissance des sites fluviaux en tant que patrimoine mondial pose des problèmes, mais de nouvelles propositions d'inscription pourraient être encouragées en modifiant les orientations de la Convention du patrimoine mondial afin de permettre une plus grande marge de manœuvre en ce qui concerne les exigences d'intégrité lors de l'inscription et de reconnaître explicitement l'utilisation de l'eau douce comme base de reconnaissance des sites mixtes naturels/culturels et des sites de paysages culturels. Il est également possible d'encourager d'autres propositions d'inscription de sites fluviaux en reconnaissant les implications importantes de l'inscription au patrimoine mondial pour la coopération internationale dans le domaine de l'eau. L'ensemble de ces recommandations constitue une voie à suivre pour renforcer la place des cours d'eau dans les zones protégées du patrimoine mondial.