

# Water Stewardship: Current perspectives and approaches

Authors: Olivia Lucas, Elizabeth Bromley, Bernard Steen, Joy Mhonda  
**Prepared for:** BSI (British Standards Institution)



---

We believe that social research has the power to make life better.

By really understanding the complexity of people's lives and what they think about the issues that affect them, we give the public a powerful and influential role in shaping decisions and services that can make a difference to everyone. And as an independent, not for profit organisation we're able to put all our time and energy into delivering social research that works for society.

National Centre for Social Research  
35 Northampton Square  
London EC1V 0AX  
020 7250 1866

[www.natcen.ac.uk](http://www.natcen.ac.uk)

A Company Limited by Guarantee Registered in England No.4392418  
A Charity registered in England and Wales (1091768) and Scotland (SC038454)

This project was carried out in compliance with ISO20252

---

# Contents

<b>Acknowledgements</b>	<b>5</b>
<b>Executive summary</b>	<b>6</b>
Is there scope for new standard setting on water stewardship?	6
What is the potential value of a new standard?	7
Reasons for caution	8
Key considerations	9
<b>1. Introduction</b>	<b>10</b>
1.1 Background to review	10
1.2 Research questions	11
1.3 Methodology	11
1.4 Report structure	12
<b>2. An overview of water stewardship</b>	<b>13</b>
2.1 Background	13
2.2 Defining water stewardship	14
2.3 Key stakeholders in corporate water stewardship	17
<b>3. Understanding water stewardship</b>	<b>19</b>
3.1 Key differences in understanding	19
3.2 Key challenges to reaching consensus	22
<b>4. Key barriers to implementing water stewardship</b>	<b>24</b>
4.1 Incentives to engage with water stewardship	24
4.2 Resourcing to implement and promote water stewardship	25
4.3 Understanding appropriate action to take	26
4.4 Issues of governance and leadership	26
4.5 Target setting and measuring progress	28
<b>5. The role of standards</b>	<b>30</b>
5.1 The current role of standards	30
5.2 Potential value of a new standard	31
5.3 Challenges to increasing the role of standards	36
<b>6. Conclusions and areas of further research</b>	<b>40</b>
6.1 Integrating site- and enterprise-level priorities	40
6.2 Informing collective action	40
6.3 Engaging SMEs	41

---

6.4 Promoting existing standards	41
<b>Appendix A. Bibliography</b>	<b>43</b>
<b>Appendix B. Methodology</b>	<b>45</b>

---

---

# Acknowledgements

We would like to thank Water Foundry Advisors, LLC for advising on the research, particularly for providing expertise in the selection of literature and stakeholders for interviews.

---

# Executive summary

By 2025 it is expected that two-thirds of the world's population will be living in water-stressed areas. Moreover, as the impacts of climate change are increasingly felt across the globe, droughts and flooding are becoming more commonplace. Therefore, achieving access to clean and safe water for all (Goal 6 of the UN's SDGs) has become increasingly urgent. To address these issues, BSI (the British Standards Institution), the UK's national standards body and a key participating member of ISO (the International Organisation for Standardisation), is considering further leveraging its expertise in developing international water standards, and promoting sustainable water use as part of a circular economy through its Thirst for Change campaign. This report presents the results of research that aimed to map the water stewardship landscape, provide an understanding of what gaps, limitations, disagreements and contradictions currently exist within it, and ultimately identify whether there is a need for a new international water stewardship standard that operates at the organisational, rather than the site-specific, level.

The definition of Water Stewardship commonly referred to is that of the Alliance for Water Stewardship<sup>1</sup> (2019): “the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site-and catchment-based actions.” The actions that an organisation can take on water exist along a spectrum, from compliance with laws and regulations in force in any given place or time, to water management which involves internal water efficiencies within an organisation's own plant or premises. Water stewardship proposes to go further than water management, to address shared water challenges (both quality and quantity) between the water steward and other users beyond the steward's own operations.

The research comprised a literature review and qualitative in-depth interviews with a broad range of international stakeholders.

## Is there demand for new standard setting on water stewardship?

The findings of the research indicated that there is interest in the further standardisation of water stewardship to complement existing standards, but with consideration given to a number of possible challenges. Those supportive of a new standard highlighted specific areas they believed the standard could address. These included bringing clarity on the appropriate

---

<sup>1</sup> The AWS is a partnership of leading non-governmental organisations and multilateral agencies on sustainable water management, which produced the widely recognised site-level standard on water stewardship.

---

approach to water stewardship, addressing water stewardship at the enterprise level, increasing transparency in target-setting, measuring and reporting, as well as scaling-up water stewardship action. However, both those supportive of and those more resistant to a new standard, cautioned that any new initiative would be adding to an already complex landscape and would be required to integrate site- and enterprise-level priorities.

The research addressed a number of current barriers to the promotion and implementation of water stewardship, highlighting the potential for new standard setting:

- **Awareness.** According to those interviewed, water stewardship is a well-established concept among a group of highly-engaged stakeholders. These included (but were not limited to) water-focused non-governmental organisations (NGOs), development banks and agencies, academics and other technical experts, as well as certain companies and industry sectors (particularly multinational corporations working in heavily water-dependent sectors, such as beverage and textiles, or in water-stressed regions). Within this group of highly-engaged stakeholders, there is a consensus around the AWS definition. However, outside this group, there is evidence not only of different understanding of water stewardship but also a lack of awareness of the concept. Interviewees felt there was limited recognition of the term and its meaning among Small and Medium Enterprises (SMEs), smaller suppliers to corporations, non-English-speaking regions and among sectors newer to conversations on sustainable water use. As such, the usefulness and distinctness of 'water stewardship' as compared to other related terms (such as 'water management' or 'water efficiency') was queried by business stakeholders and others. More fundamentally, water may not be a priority issue for some businesses and organisations, especially if water risks are 'hidden' within their supply chain or water is not perceived as a business risk.
- **Complexity.** Even among those who recognise the AWS definition, there are different views on what water stewardship should involve operationally. This is, in part, because mitigation of water risks is conceptually more difficult to understand than carbon mitigation. Water, unlike carbon, is a local resource. Environmental, economic and social issues at the catchment-level are core to the impacts of water over extraction and pollution. The 'correct' actions to take also vary by how water is used in an organisation, as well as location and seasonality. Moreover, the expectations on companies around water stewardship must necessarily be different for SMEs compared to multinationals, given variation in available resources and capacity.
- **Fragmentation.** Competition and a lack of coordination between key promoters of water stewardship has led to a perceived proliferation and fragmentation of initiatives and terminology around water stewardship. This fragmentation extends to approaches to target-setting, the metrics used to monitor progress on water stewardship, and the data recorded and disclosed on water performance. Given the complexity around identifying the appropriate actions to take on water stewardship, this lack of alignment has led to confusion among the private sector and was a disincentive to engagement.

## What is the potential value of a new standard?

There is potential for a new water stewardship standard to address some of the barriers and gaps in the current water stewardship landscape outlined above:

- **Bringing clarity.** In response to the current perceived fragmentation of water stewardship initiatives, tools and methodologies, a new standard could provide consensus on key ideas

---

and terminology (such as 'net-positive water impact' and 'replenishment') and a clearer pathway into water stewardship for non-state actors wishing to engage for the first time. By setting out case studies of success and country- or sector- specific guidance, a new standard could also help translate the theory of water stewardship into practice and increase adoption. A new standard could additionally codify and align approaches to target-setting and metrics, therefore bringing greater transparency to water stewardship performance.

- **Enterprise-level solution.** A clear gap in the current water stewardship landscape was a standard that could be applied at the level of the whole organisation. The AWS Standard was considered to provide a rigorous framework for water stewardship at the site-level, encompassing its impact on the local water basin. However, stakeholders felt that an enterprise-level solution was needed to complement this approach. An enterprise-wide standard could provide a model of good practice for non-state actors on what actions to take to move beyond water management. This was envisaged as complementing existing water-related ISO standards that operate at the enterprise-level but were felt to have 'niche' uses within water stewardship. Such a standard could provide a stronger incentive for corporate action on water stewardship by providing a verified mechanism to make claims on activities beyond individual sites and basins, and reassurance for the investment needed to mainstream water stewardship in a company's activities.
- **Scaling-up.** A new standard could support the scaling up of action on water stewardship by making its implementation more accessible for SMEs. The research highlighted that existing verified initiatives can be too resource-intensive for SMEs, meaning they are unachievable. A new standard could provide a simplified but still robust pathway to accreditation on water stewardship, which is reflective of the more limited capacity of SMEs. By expanding the focus of water stewardship beyond the basin-level to encompass how water moves globally and better align with the goals of climate resilience and adaptation, a new standard could also produce greater visibility for water stewardship and ultimately lead to more impactful activity on water.

## Reasons for caution

While the research pointed to several potential benefits to the development and introduction of a new standard on water stewardship, there were also reasons for caution about the potential implications of doing so:

- **Greenwashing.** Despite the potential benefits, there is a risk that a new international enterprise-level standard could lead to 'greenwashing'. By being all-encompassing and universally applicable, such a standard could lack the required detail to make robust demands of an organisation that are beyond business-as-usual activity. By expanding the focus of activity beyond the basin to country, regional or global-levels, water stewardship could be reduced to a volumetric measure which fails to address the importance of local, social, economic and environmental issues. Whether a new standard is able to achieve greater clarity and alignment on water stewardship, or leads to 'greenwashing', will depend on the rigour by which it is developed and the substantive expectations it places on companies.
- **Uptake and confusion.** There is also a risk that a new standard on water stewardship could have limited uptake and impact among non-state actors. This is due to the previously mentioned lack of awareness about the concept outside a relatively small circle of key actors and because of a general fatigue around sustainability standards within the business



---

community. Stakeholders suggested a new standard could add additional confusion to an already complex landscape of tools and initiatives. It was felt that a new global standard should take care not to introduce new methodologies and concepts, but to complement existing resources so as not to disrupt progress already made.

## Key considerations

Should the development of a new standard be undertaken, there are two main considerations that it will need to address:

- **Integrating site- and enterprise-level priorities.** A key consideration for any new standard is to decide whether and how to advance the priorities of stakeholders at both the site- and enterprise-level. Research participants grappled with how to simultaneously address local water quality and quantity issues within a basin or catchment, and the role of water in strategic business decisions and regional or global value chains. A future area of focus may therefore be to identify standards in other domains which operate successfully across two tiers of application in this way, and to better understand how this may be done for water stewardship.
- **Informing collective action.** The research highlighted that collaboration through collective action is an important element that sets water stewardship apart from water management and other concepts. However, there have been a limited number of collective action efforts progressed to date, with companies continuing to focus on where they can achieve change individually and improve efficiency within their own operations. An important task of any new standard will therefore be to understand what 'success' looks like within collective action schemes and provide meaningful and tailored guidance which can be applied across variations in cultural traditions, language and business size.

---

# 1. Introduction

This report presents the findings of a focused literature review and 20 in depth interviews with experts within the field of water stewardship. The aim of this research was to synthesise existing research and expert knowledge on water stewardship, identify key points of variation, and in doing so, discern if there is a need for a new standard in the field.

## 1.1 Background to review

As the impacts of climate change start to be felt acutely across the globe, droughts and flooding are becoming more commonplace. It is expected that by 2025, two-thirds of the world's population will be living in water-stressed areas<sup>2</sup>. Protecting access to clean and safe water is therefore increasingly urgent. In recognition of this, BSI are turning their attention towards water security, and more specifically, water stewardship. According to the Alliance for Water Stewardship (AWS), water stewardship refers to water use that is environmentally, socially and culturally sustainable, as well as economically beneficial<sup>3</sup>. It is an essential contribution towards water security (ensuring access to water and sanitation for all), one of the UN's Sustainable Development Goals.

Water security requires co-operation from a wide range of actors, including at the non-state level.<sup>4</sup> Organisations have impacts not only on water supply, but also on water quality, depending on their approach to wastewater and their use of pollutants. These impacts are governed by national regulations and guidelines, for example the Water Framework Directive in Europe and the Clean Water Act in the United States. However, there is no international regulation governing water use. The Sustainable Development Goals - SDG 6 - promotes "sustainable management of water and sanitation for all", the closest iteration of a global goal on water stewardship. Given the global nature of both climate change and water security, this is a notable gap, and given the urgency, there is a push to encourage businesses, cities and regions to better understand, and take responsibility for their impact on water quality and quantity through commitments to water management and/or water stewardship.

There are a number of existing frameworks and approaches associated with water stewardship. What is lacking is a comprehensive summary of these approaches, and an understanding of what gaps, limitations, disagreements and contradictions there are. Key concepts such as replenishment, water positive, and water resilience have not yet been

---

<sup>2</sup> Water Security through Stewardship, UN Global Compact

<sup>3</sup> About the Alliance for Water Stewardship - Alliance for Water Stewardship (a4ws.org)

<sup>4</sup> The range of non-state actors highlighted during the research include investors, Non-Governmental Organisations (NGOs), consumers, academics and technical experts, development agencies and the various levels of the private sector, from multinational corporations to SMEs.

---

collectively agreed, making it difficult for non-state actors to make meaningful commitments, and potentially failing to include voices of those who are most impacted by water insecurity, including local communities.

BSI's goals, in undertaking this scoping research, were therefore to map the water stewardship landscape, build consensus on key concepts, clarify thinking on key issues and ultimately identify whether there is a need for a new water stewardship standard that operates specifically at the organisational, rather than the site-specific, level.

## 1.2 Research questions

This research report is focused on answering the following key research questions:

1. How are approaches to water stewardship (and associated concepts) defined and what are the key challenges to reaching broad consensus on one definition?
2. What are the barriers and facilitators to understanding and implementing water stewardship approaches?
3. What role could standards play in improving water security locally and across supply chains?
  - What role are standards already playing?
  - Are there any gaps in current standards?
  - What are the key challenges to increasing the role of standards?

## 1.3 Methodology

This research was comprised of an initial focused literature review, followed by 20 qualitative stakeholder interviews.

The literature review considered 15 sources. The aims of this review were to: ensure that the research team sufficiently understood the topic of water stewardship; inform the development of the interview topic guides; and provide high-level content for interpreting and reporting on the interview findings. Relevant literature was identified using Scopus, Google Scholar and web searching.

Qualitative stakeholder interviews were conducted with experts within the field of water stewardship. These stakeholders were associated with government, national standard bodies, charities, NGOs, businesses and inter-governmental organisations (see Appendix B. Methodology for sample breakdown). Interviews lasted for 45 minutes and the discussion focused on the following key areas:

- Understanding of water stewardship and related concepts
- Current actions involved in, towards water stewardship
- Barriers to implementing or promoting water stewardship
- The current role of international standards

---

Naturally, this report presents the views of those stakeholders interviewed as part of the research. It should be noted that while effort was made to include a range of perspectives, there may be other views that were not captured within the research. For example, the business stakeholders included in the research tended to represent the views of US-based multinational corporations. Where the report presents findings on the experiences of the private sector (including SMEs), these are drawn from these multinational stakeholders as well as NGOs and other experts working within the private sector, rather than directly from SMEs themselves.

The research informed an accompanying mapping exercise, conducted by Water Foundry, intended to give a more exhaustive view of the current landscape of voluntary standards and initiatives.

## 1.4 Report structure

The report structure is as follows:

- Chapter 2: An overview of water stewardship
- Chapter 3: Understanding water stewardship
- Chapter 4: Key barriers to implementing water stewardship
- Chapter 5: The role of standards
- Chapter 6: Conclusions and areas of further research

---

# 2. An overview of water stewardship

This section of the report presents an overview of water stewardship to provide context for the rest of the report. It begins by briefly addressing the context in which the concept emerged, then defines the term with references to leading frameworks and tools, and finally presents the main types of stakeholders that are involved in its promotion and implementation.

## 2.1 Background

The world's water resources are under increasing pressure from abstraction, pollution, increasing demand and extreme weather patterns. As water quality and quantity issues increasingly affect business operations in water-stressed regions, the role of companies in ensuring the sustainability of water resources has become more apparent. In this context, water stewardship has emerged as a key concept shaping the behaviour of organisations on water. This section presents a brief timeline overview of the concept's origins and current status.

- **Origins in the 2000s:** Internationally, a series of water crises focused attention on water management.<sup>5</sup> In 2007, the CEO Water Mandate was launched. The initiative aimed to engage CEOs of leading companies in developing solutions to the growing water crisis. Separately, a number of influential conservation organisations had been working to draw attention to water use in industry. In this context, the concept of water stewardship evolved from a realisation that existing systems of water management were not working (Forbes, 2018).

A number of NGOs and other organisations working on water decided to coordinate efforts to form the international Alliance for Water Stewardship (AWS), launched in 2008. The initiative was led by Water Stewardship Australia, with involvement from Pacific Institute, The Nature Conservancy, UN CEO Water Mandate, World Wide Fund for Nature (WWF), European Water Partnership, Water Witness International, Water Environment Federation and CDP Water. The objective of the newly formed AWS was to promote water stewardship through creation of an international standard. Other key initiatives were launched during this decade, including the Water Footprint Network (2008).

- **Growing momentum in the 2010s:** After 3 years of testing and consultation, the AWS Standard first launched in 2014 (Forbes, 2018). The AWS Standard is described further in section 2.2. The standard was immediately adopted by Ecolab, one of the companies that had worked with AWS on the standard. Ecolab applied the standard to its plant in Taicang,

---

<sup>5</sup> In the literature, 'water management' is used to refer to the actions of companies, while 'water resources management' refers to system-wide issues, including at river basin and national scales.

---

China, its largest in Asia. Use of the Standard grew throughout this period, with early adopters including some of the world's largest companies (such as Nestle, Coca Cola and Diageo) (Forbes, 2018).

In 2015, the UN Sustainable Development Goals (SDGs) were established. These included SDG6 which commits "to ensure access to water and sanitation for all" by 2030. To further this goal, countries commit, amongst other actions, to "implement integrated water resources management (IWRM) at all levels, including transboundary cooperation" (SDG6.5). According to the Global Water Partnership, IWRM is:

*"a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems".<sup>6</sup>*

A perceived lack of progress by countries on IWRM has been given as one reason for growing interest in water stewardship initiatives within the private sector (Newborne & Dalton, 2016). Lack of progress has been particularly apparent in low-income economies that lack the institutional capacity for the scale of change needed for IWRM.

- **Scaling up in the 2020s:** Efforts on water stewardship are today focused on scaling up water stewardship to meet the ever-increasing freshwater challenges. This involves key actors in the field reviewing progress since the late 2000s to better understand how approaches to promoting water stewardship can be strengthened (WWF, 2023). Their aim is to more clearly present the value that water stewardship practices can bring and engage a wider variety and greater number of businesses in these activities. Initiatives aimed at improving companies' approaches to water continue to be developed, including revisions to the AWS Standard, the Water Stewardship Acceleration Forum (WaSA Forum),<sup>7</sup> the World Business Council for Sustainable Development (WBCSD)'s Freshwater Accountability Navigator (FAN) and the Science Based Targets on Freshwater.

## 2.2 Defining water stewardship

While Chapter 3 will address how current understanding of water stewardship varies, this section addresses existing definitions of the concept and related initiatives which inform an organisation's actions on water stewardship. It should be noted that while a range of initiatives are mentioned in this section, it is not an exhaustive mapping of existing activity on water stewardship. An accompanying mapping exercise by Water Foundry will provide a more complete overview.

While water stewardship can be carried out by a range of non-state actors, the research findings relate primarily to the activities of private companies ('corporate water stewardship'), as this was how the concept was spontaneously understood and discussed by many of the interviewees. The actions that an organisation can take on water exist along a spectrum, from compliance with laws and regulations in force in any given place or time, to water management which involves internal water efficiencies within an organisation's own plant or premises. Water stewardship proposes to go further, to address shared water challenges between the organisation and other users 'beyond the fence line'.

---

<sup>6</sup> The Need for an Integrated Approach - GWP

<sup>7</sup> <https://wasaforum.org/>

---

### 2.2.1. The AWS Standard

Across the literature and interviews, the definition most often referenced is that of the AWS Standard (2019):

*“the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site-and catchment-based actions.”*

Implementation of the AWS Standard is intended to achieve 5 main outcomes:

- good water governance;
- sustainable water balance;
- good water quality status;
- important water-related areas, and;
- safe water, sanitation and hygiene for all.

The Standard is stated to be applicable globally to all organisations and industrial sectors, independent of their size and operational complexity, including agriculture and non-profit sectors. Its focus is the operational site and its local catchment, but with a broader goal to include indirect water use in the supply chain. Organisations using the Standard should:

*“apply water stewardship to a ‘physical scope’ extending beyond the site’s boundaries for data collection, stakeholder engagement and actions. The physical scope should be based on a combination of water-related catchment(s), stakeholder interests and regulatory landscape.”*

The Standard’s framework is built around 5 key steps to becoming a water steward (Figure 1). Each step consists of a number of criteria to be addressed, with each criterion having one or more indicators of compliance. There are ‘core’ indicators which represent the minimum requirement, and ‘advanced’ indicators to demonstrate a higher level of water stewardship and to encourage continual improvement. While a site can become accredited under the Standard, the aim of its founders was to create a framework to improve water stewardship practice. Therefore, the Standard’s principles can be applied by an organisation across its value chain, with or without the goal of achieving accreditation for one or more of its sites.

Importantly, the Standard acknowledges that its intended outcomes cannot be achieved by a single organisation working alone. Therefore, an important principal of good water stewardship is ‘collective action’ within a catchment, to include the water steward and its relevant stakeholders. While the concept is not further defined within the AWS Standard, across the literature and interviews, ‘collective action’ was considered to involve the private and public sectors working in partnership to engage water users and stakeholders at all levels, to achieve improvement in water quantity and quality within a catchment. Indeed, across stakeholder interviews, it was the element of collective action which was thought to set stewardship apart from an organisation’s water management activities.

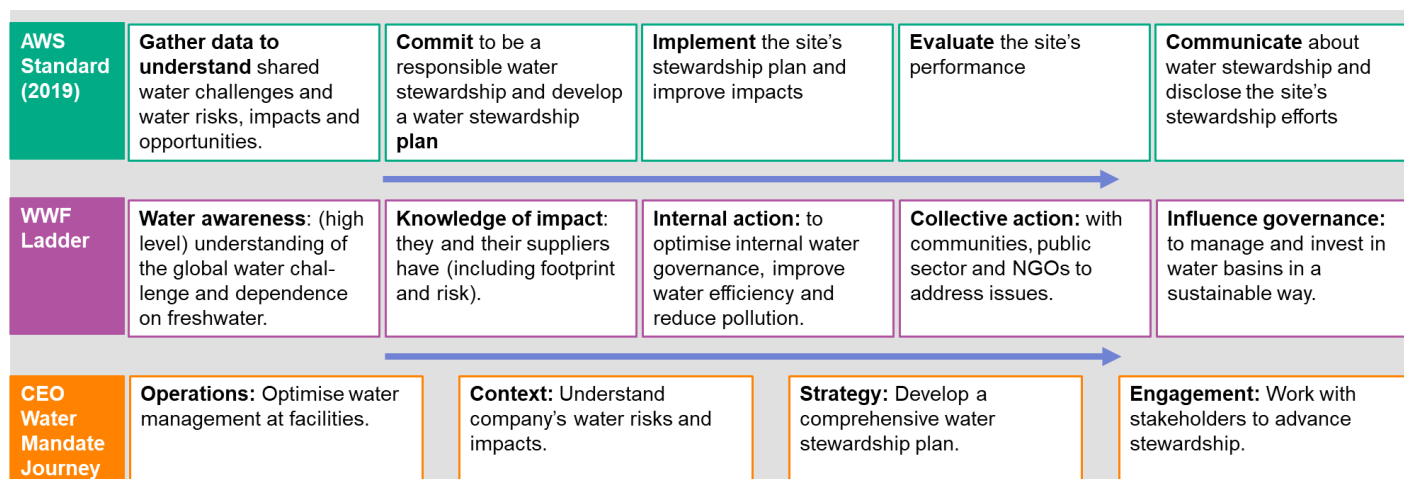
### 2.2.2. Other frameworks for water stewardship

Other organisations, while not competing with the AWS Standard framework, have set out different ways of conceptualising an organisation’s engagement in water stewardship. These include WWF’s Water Stewardship Ladder which presents 5 levels (Figure 1). Collectively, the

levels encompass the activities necessary for an organisation to be a good water steward at the highest level. However, contributors to the research acknowledged that water stewardship exists along a spectrum, and the activities expected of large corporations to be good water stewards are not the same as those expected of SMEs with fewer resources.

The CEO Water Mandate commits businesses to continual progress in 6 areas of water stewardship: direct operations, supply chain and watershed management, collective action, public policy, community engagement and transparency (presented as a 'Water Stewardship Journey', see Figure 1). The CEO Mandate project encompasses a range of initiatives intended to promote best practice. This includes the Water Resilience Coalition which is a CEO-led commitment platform aiming to achieve positive water impact in over one hundred priority water-stressed basins around the world by 2030. The platform has championed the concept of Net Positive Water Impact as reducing water stress in 3 water dimensions (quantity, quality and accessibility) to ensure a company's contributions continually exceed impacts on water stress in the same region.

Figure 1: The AWS Framework 5 steps, WWF Water Stewardship Ladder and UN CEO Water Mandate Water Stewardship Journey



### 2.2.3. Complementary tools and initiatives

In addition to frameworks which offer an overall theory of, or approach to, water stewardship, there are various complementary tools and methodologies to guide activities under these frameworks. These include tools designed to enable companies to assess their internal water risks and wider environmental impacts related to water, to help inform the mitigating action to take through water stewardship. These include the World Resources Institute (WRI)'s Aqueduct tool which is used by corporates to determine the state of water availability in the areas that they operate, based on NASA satellite data. Similarly, WWF's Water Risk Filter is a free online screening tool to help corporates explore and assess their water risks. It combines basin data, industry-weightings and operational information in order to prioritise action on water. Other methodologies include ISO's 14046 Water Footprint Assessment and the Water Footprint Network (WFN)'s Water Footprint Accounting. These methodologies are used to assess the total volume of freshwater used in the production of a business's goods and services, taking account of the type of water use, as well as the location and timing of water use.

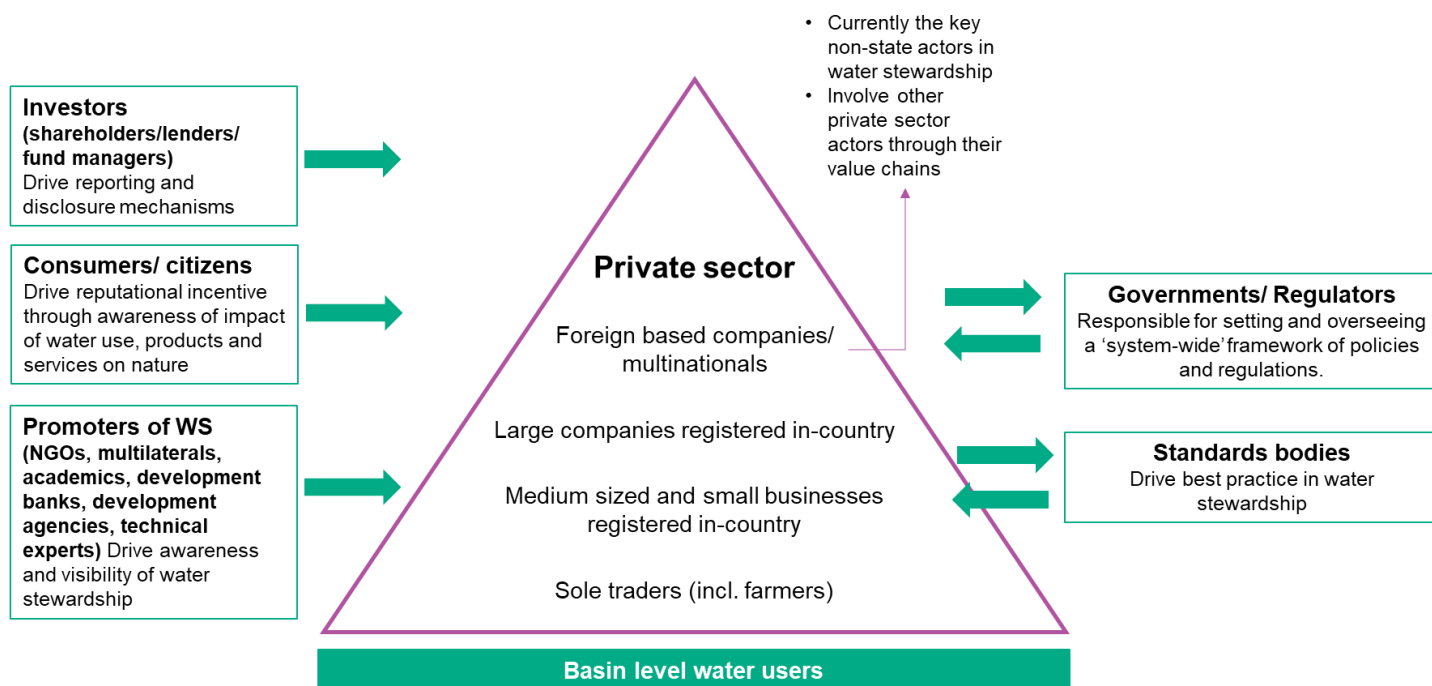


Investor disclosure is an additional lever that is used to promote engagement with water stewardship. This draws on increasing investor environmental awareness and prioritisation. The initiative frequently referred to by stakeholders and in the literature was the CDP Water Security Program. CDP scores companies on their disclosure against a range of indicators including how water is integrated into business decisions and whether there is board level oversight of water-related issues. The CDP questionnaire draws on and aligns with a range of other financial and investor reporting initiatives including the International Sustainability Standards Board, the European Sustainability Reporting Standards (ESRS)<sup>8</sup> and the recommendations of the Task Force on Climate-Related Financial Disclosures to provide a comprehensive standard for water disclosure and reporting and drive transparency in this area.

## 2.3 Key stakeholders in corporate water stewardship

While IWRM and water stewardship have a number of shared objectives (including environmental sustainability and the involvement of multiple actors through collective action), water stewardship is differentiated by involving the private sector (non-state actors) contributing to water resources management on behalf of other users (Morgan & Orr, 2015). On this basis, an understanding of the network of actors connected to water stewardship initiatives is key to understanding the concept. An overview of this network and the relationships between them is presented in Figure 2.

Figure 2 Main actors in corporate water stewardship



Source: adapted from Newborne & Dalton, 2016, p. 26.<sup>9</sup>

<sup>8</sup> Companies who fit within the scope of the EU Corporate Sustainability Reporting Directive (EU CSRD) are required to report to the ESRS.

<sup>9</sup> It should be noted that water utilities have been excluded from the diagram. While they play an important role in the treatment, testing and management of water resources, their position is unique and does not fit easily within the system set out in Figure 2.

---

Water stewardship activities potentially involve a range of stakeholders:

- **Private sector:** This report primarily concerns the activity of the private sector in relation to water resources. There are a number of levels within the private sector as set out in Figure 2. Where non-state actors are referred to throughout the report, this encompasses foreign based companies/ multinationals, large companies registered in-country, and SMEs. Currently within the private sector, foreign based companies/ multinationals tend to be the main actors and involve the other levels in water stewardship activities through their value chains (particularly farmers involved in the production of raw materials).
- **Governments and regulators (state actors):** are responsible for setting and overseeing the 'system-wide' framework of policies and regulations needed to meet SDG6 (through IWRM). They are also responsible for the compliance and enforcement regimes which ensure regulations are complied with and can influence behaviour on water use through the setting of market conditions (including water charges and taxes). Another key role played by states is as donors to water stewardship projects. An example is the International Water Stewardship Programme (IWaSP) which operated from 2013 to 2019 and was funded by the UK's Foreign and Commonwealth and Development Office (FCDO) and the German Federal Ministry for Economic Cooperation and Development (BMZ).
- **International and national standards bodies:** set the benchmark for good practice on aspects of water stewardship. While established standards related to water already exist (e.g. the site-level AWS Standard, reporting and disclosure standards including the CDP Water Security Program and forthcoming EU Corporate Sustainability Reporting Directive (CSRD)), the research addresses the comprehensiveness of the current standards landscape and adequacy to drive engagement in water stewardship (discussed further in chapter 5).
- **Consumers/ citizens and investors:** The increasing environmental awareness of customers, citizens and investors is driving increased disclosure and reporting on water performance (e.g. through CDP's water program) (discussed further in section 4.1). These observers are increasingly demanding sustainability credentials of the products they consume and companies they finance.
- **Promoters of water stewardship:** a number of NGOs have been highly influential on water stewardship (including the founding members of the AWS Standard set out in section 2.1). These NGOs play a leadership role in developing corporate water stewardship frameworks and tools and, alongside a range of technical experts (including academics and sustainability consultancies), act as partners to the private sector, providing information and guidance on water stewardship actions and how to achieve accreditation under the AWS Standard. Multilateral government organisations (e.g. UN Water) play a coordinating role amongst key public and private sector actors and provide forums for the sharing of best practice on water stewardship.
- **Basin level water users:** are the ultimate beneficiaries of water stewardship and IWRM both in terms of access to Water, Sanitation and Hygiene (WASH) and economic livelihoods.

---

# 3. Understanding water stewardship

Water stewardship is a well-established concept within certain companies, organisations and sectors. Within this group, there is a consensus around the AWS definition of water stewardship. However, outside this group, there is evidence not only of different understanding of water stewardship but also a lack of awareness of the concept. In this chapter, we will explore some of the differences in understanding of water stewardship and consider the challenges that exist to reaching a consensus.

## 3.1 Key differences in understanding

This section provides an overview of the main ways in which understanding and awareness of water stewardship varied. It begins by exploring variation in levels of awareness of water stewardship. It then looks at disagreements over whether water stewardship is truly a distinct concept from other, related, concepts. The section then explores more practical differences, including variation in how water stewardship is implemented, and different views on the role that collaboration plays in water stewardship.

### 3.1.1. Awareness of water stewardship

While there were different views on how widely water stewardship was understood, participants generally agreed that awareness could be improved. There was a view that water stewardship is only well understood among a certain group of companies and organisations.

One view shared was that awareness and use of the term 'water stewardship' is less common amongst some types of companies than others, and that it varied across regions. SMEs and companies that operate as tier-two or tier-three suppliers (e.g. companies that supply materials or components for an end product) were identified as having a relatively low awareness and understanding of water stewardship. Another perspective given was that water stewardship is a term that is predominant only in certain regions, specifically countries where English is the main language spoken. Areas of Asia and Latin America were identified as seeing limited use of the term. As a result, some participants avoided using the term water stewardship to engage with international partners.

Another view shared was that understanding of water stewardship varied more widely within sectors that are newer to the concept. The energy sector was highlighted as a newer player in the water stewardship space, and showed a broader range of understanding and interpretations of water stewardship than other sectors. This was contrasted with more established sectors, such as food and beverage, who were felt to have a stronger and more cohesive understanding of water stewardship.

---

*"[...] when you go beyond the circle of companies who have been engaged with these issues for many years and know the players very well [...] outside of that, people, they're not necessarily aware."*

Sustainability consultant

### 3.1.2. Whether water stewardship is a distinct concept

There were different views on whether other terms, such as 'water security', could be substituted for water stewardship. Those who were in favour of substituting other terms, argued that water stewardship was not always an appropriate term to use. Situations in which other terminology was suggested to be more appropriate were if a supplier or partner organisation is not familiar with the term 'water stewardship', or if another, more specific term, is relevant within a given context.

There were two main reasons given for using 'water stewardship' interchangeably with other terms. The first reason was a preference among participants to use terminology suppliers or partners are already familiar with. The prevailing view was that, if a partner was not familiar with the term 'water stewardship' then introducing this new term could cause confusion. One perspective was that other terms can communicate the same concept, and that using terminology that is clear and understood provides the best foundation from which to work towards water stewardship goals, even if the terminology is not aligned. Examples of terms used instead of 'water stewardship' included 'water security' and 'responsible water management'.

The second reason given for using other terms in place of water stewardship was if another term clearly illustrates the priority focus within a specific context. An example given was the use of the term 'water security' with suppliers based in water scarce areas. The use of this term conveys that the priority focus is ensuring there is enough water within a catchment. In areas where water is abundant, the term 'water resilience' was suggested instead, since it describes a focus on safeguarding water supplies in the future. There was a view that suppliers are more likely to recognise and understand language that is tailored towards what is actually happening in their catchment. Just as with using familiar language, participants thought that tailoring terminology to context provides a good basis from which to achieve the overall aims of water stewardship.

A contrasting view was that water stewardship is necessarily distinct from other concepts suggested, such as water security and water management. One view was that water stewardship is an active concept, with notions of responsibility, agency and management. By contrast, water security was perceived to be a state: whether there is enough water to meet the needs of all water users or not. One widely held view was that water stewardship necessarily goes beyond water management, because it involves going beyond internal actions and engaging with others.

---

### 3.1.3. Implementing water stewardship

In addition to variation in awareness of the concept, and whether it was viewed as distinct from related concepts, there was variation in how water stewardship was implemented in practice. Multiple factors were suggested as contributing to this variation, which will be discussed in turn.

One contributing factor given was the context within which an organisation's operations are based. A widely shared view was that the aspects of water stewardship that should be emphasised in each context vary. In water scarce areas for example, the key focus needs to be ensuring water security, whereas in water abundant regions, the focus can be placed on water resilience instead. Each focus would necessitate a different set of actions, and a different way of implementing water stewardship.

Company operations and resources were also thought to influence how water stewardship is implemented. The resources available to a company and how material water is to their business can strongly impact what water stewardship looks like in practice. Effective action was described as looking very different across a range of factors, such as company size, whether water is a key resource or not, and whether water is used directly or not (i.e. if water use is concentrated in the second or third tier of the supply chain).

A lack of clarity on exactly how to implement water stewardship was reported as another factor contributing to variation in implementation. Companies can be confused about where to start with water stewardship, given the huge variety of tools, approaches and frameworks available, with each suggesting a different approach (this is discussed further in section 4.3. Understanding appropriate action to take). This challenge is compounded by a lack of guidance that is specifically tailored to each context companies operate in. Some level of choice and interpretation is therefore always necessary, which leads to variations in how water stewardship is applied.

*"My sense is that there is a consensus on the overarching goal but this consensus begins to fall away when you start to get to the nitty-gritty underneath it."*

Business

Companies' internal priorities also influenced how they implemented water stewardship. Business participants suggested that it is important for them to have specific indicators that can be quantified and reported on, to demonstrate progress and the value of water stewardship actions internally and to investors. This can lead them to favour certain tools, and their associated actions, which support this priority. Participants from NGOs saw this as a problem. One group of participants suggested that a focus on disclosure and reporting can lead companies to direct resources towards producing certain data, which is viewed positively by their investors, but which does not necessarily lead to good water performance in practice.

### 3.1.4. Collaboration in water stewardship

Collaboration was generally viewed as a key component of water stewardship, but there was less clarity on what it should look like in practice and how it should be approached. The role of collaboration in water stewardship will be explored in this section at two different levels:

- 
- At the catchment level (i.e. collaboration between all the interested parties within a catchment<sup>10</sup>)
  - At the strategic level (i.e. collaboration between all the key players who engage with the concept of water stewardship, both locally and internationally)

At the catchment level, collaboration (and associated ideas such as collective action), was suggested as an important component of water stewardship. How to go about this in practice was reported as less clear. The AWS Standard suggests that collective action is necessary in most cases for an organisation to achieve the standard outcomes (Alliance for Water Stewardship, 2019). Despite this, one view shared by participants was that companies can deprioritise collective action if, for example, they are heavily focused on water-related risks to their own operations. For companies who do want to engage in collective action within the catchment level, participants felt that the AWS standard provided a good starting point. However, there was a view that the term 'collective action' remains vague and AWS could provide more specific guidance. Participants recognised that this would be challenging as collective action is a rapidly evolving component of water stewardship.

One widely held view was that there is a lack of communication and collaboration between the key players who engage in water stewardship at the conceptual and strategic level, both locally and internationally. These key players were identified as: NGOs, companies, water districts, government, regulators, utilities, researchers and local people/civil society. This view was accompanied by the suggestion that more should be done to bring these key players together. However, there was no clear consensus shared on how to go about this, and who should be the one to instigate this wider collaboration. Collaboration at this level was viewed as desirable for a range of reasons:

- To create alignment between the existing frameworks, tools and guidelines in the space - this could include providing direction on how they can be used together
- To bring a global dimension to water stewardship - this would consider how global factors, such as trade, policy and regulation interact with local water stewardship
- To encourage the participation of civil society - this would ensure social interest is considered in water stewardship
- To move towards collective advocacy - this describes collaboration at a level where companies actively advocate for water stewardship, push water up the political agenda and drive innovation in governance

## 3.2 Key challenges to reaching consensus

The first section of this chapter illustrated key differences in how water stewardship is understood, both conceptually and practically. This section will explore key challenges to achieving a consensus on how water stewardship is understood. Challenges include: the variation in local water contexts; the need to ensure baseline understanding of water; and competition within the water stewardship space.

---

<sup>10</sup> A water catchment refers to "the geographical zone in which water is captured, flows through and eventually discharges at one or more points." Definition from: AWS Standard 2.0 2019

---

## Variation in local water contexts

As already noted, local water contexts are highly variable, and the required action is different across basins. This creates a key challenge to reaching consensus on understanding of water stewardship. Participants suggested that the context-specific nature of water is the primary reason definitions of water stewardship are relatively high-level. Reaching consensus on a more detailed definition will be challenging. This challenge is raised throughout this report.

## The need to ensure baseline understanding of water

One view was that a baseline understanding of water is a necessary first step before a consensus on an advanced water-related concept like water stewardship can be achieved. Focusing first on companies, two key points were shared as evidence that there is still work to be done to raise baseline awareness and understanding of water. Firstly, not all companies understand that water is something they need to consider at all, especially if it is not central to their operations. Secondly, there was a perception that companies often lacked an understanding on the nature of water: participants pointed out that the use of terms such as 'water-neutral' or 'water offsets' by companies illustrates that they think water can be treated like carbon i.e. that water used in one basin can somehow be offset elsewhere.

Another view was that not all regulators have a sufficient understanding of water. Water policy was viewed as outdated in some regions, as it does not always consider or protect against the potential for the water situation to change. Examples of potential changes included climate-related impacts, such as floods or droughts or increased competition for water resources.

## Competition within water stewardship

One of the barriers to reaching a consensus on water stewardship was active competition within the water stewardship space. Several behaviours were highlighted that increase differences, rather than creating consensus, on understanding of water stewardship:

- Companies want to set themselves apart and position themselves as leaders in the field - this can lead them to consciously differentiate themselves e.g. by coining new terms
- Organisations who partner with companies on water stewardship have their own objectives, and compete for access to company resources to support these
- Different organisations with competing objectives provide funding for the development of supportive resources, leading to a proliferation of fragmented tools, frameworks and guidelines

*"It's a competitive space... because you are competing for corporate attention to access resources to deliver things that you think are important to deliver"*

International or non-governmental organisation

---

# 4. Key barriers to implementing water stewardship

Non-state actors face a range of challenges to implementing water stewardship. This chapter sets out in detail each of the barriers identified in the literature and stakeholder interviews. These include: a lack of incentives to engage with water stewardship; insufficient resources to implement water stewardship activities; complexity around the correct actions to take; shortcomings in governance and leadership on water stewardship; and a lack of clarity on target setting and metrics for gauging progress against them.

## 4.1 Incentives to engage with water stewardship

The research highlighted two key motivations for non-state actors to engage in water stewardship activities: the avoidance of risk (either operational or reputational) and accessing new opportunities (increased profitability or leadership).

Interviewees felt that the risk posed by water quality and quantity issues needed to be made clearer to businesses. Among interviewees, business continuity was felt to be the main driver for engagement in water stewardship currently. Sectors which use water directly in their operations (for example, food and beverages, mining and manufacturing) and/or that operated in areas of water stress had engaged early with the 'risk' narrative on water. While the number of businesses recognising the importance of water to their operations was increasing, the pace of progress was too slow to meet current climate challenges. The slow pace of progress was particularly in those sectors in which the majority of water use was 'hidden' within the supply or value chain. The interviews and literature identified two main reasons for lack of awareness and visibility around water risk:

- **Shortcomings in companies' water risk assessments:** For example, methodologies for assessing risk (e.g. WWF's Water Risk Filter and Water Footprint approaches) vary in whether they consider the entire value chain (or only the activities that provide material inputs for production), whether they integrate activities unrelated to production (e.g. administration and IT), and the extent to which wider environmental impacts are considered (in addition to internal impacts for the business) (Forin, Berger & Finkbeiner, 2018). Jia et al., 2019 found that assessments generally did not adequately account for the social impacts of water extractions (that is, the WASH impacts on local communities as well as the economic implications for other water users in the basin).
- **Limited understanding of strategic value:** Interviewees explained that where the benefits of water stewardship are understood within a business, this tends to be at the operational level rather than C-suite management. The strategic value of water stewardship to an organisation can therefore be overlooked, and as a result, it is understaffed and underfunded. Instead, potential investment is directed elsewhere, including towards other



---

climate-related priorities (e.g. carbon reduction) which are better understood by management.

While the private sector is beginning to see the financial opportunities of engaging in water stewardship (i.e. competitive advantage through decreased production costs), interviewees explained that this benefit is not currently a key incentive for engagement as the price of water is generally low. Interviewees felt that organisational behaviour is largely market driven. There was a view that engagement in water stewardship would only reach scale once companies were convinced of the business case for investment. There was a suggestion in the literature that a 'True Cost' calculation of water should replace simple accounting by businesses. This would produce a 3-5x higher cost by factoring in a potential increasing price of water as climate issues worsen, as well as impacts on future growth from water shortages (Whyatt et al., 2021).

## 4.2 Resourcing to implement and promote water stewardship

The research highlighted the following ways in which resourcing presents a barrier: limited resources within organisations implementing water stewardship, and a lack of experts to promote and support implementation.

According to the interviews and literature, water stewardship is highly resource intensive, and businesses can be unaware or unprepared about what is required, especially SMEs. There were two main ways in which water stewardship was identified as resource intensive:

- unpacking increasingly complex global supply chains and tracing back to the source of raw materials
- stakeholder outreach and relationship-building required for collaborative initiatives and collective action

*"You can't just solve the problem by engineering your way out of it when it's truly water stewardship. I think time and emotional energy takes up individuals at the companies, whether it's at the facility or the corporate level. That's a big investment that I think companies don't even understand is needed until they're thick in it."*

Sustainability consultant

Interviewees also identified a lack of experts within consultancies, NGOs and academia working to support and promote water stewardship. This was thought to be crucial given the important enabling role played by these organisations as partners, bringing individual businesses on a journey from water management to stewardship:

*"[...] the stewardship partner opens the door and says, 'Well, these are the sort of things we've been doing, this is what you could do, this is what the literature*

---

*is saying, these are the things that are out there.' Then that tends to open the door to good practice and you get that meeting of minds."*

International or non-governmental organisation

## 4.3 Understanding appropriate action to take

The complexity of water stewardship was also a barrier to take up. Both the literature and interviews highlighted that water stewardship is more conceptually difficult to understand than carbon reduction (which organisations are likely to be more familiar with).

Water, unlike carbon, is a local resource. The environmental, economic and social impacts of water withdrawals are watershed<sup>11</sup> specific. Therefore, water drained from one location cannot simply be replenished in another (Whyatt et al., 2021; Newborne & Dalton, 2019). However, the dominance of water 'footprint' approaches in risk assessments has given rise to replenishment and net positive strategies which do not translate well from carbon to water. Moreover, the 'correct' actions to take for sustainable water use vary depending on how water is used within the business and vary by location and season. Complexity also arises from a lack of understanding and consensus on what works to achieve improved environmental, social, and economic outcomes in relation to water. This is in part due to an historical lack of independent evaluation of water stewardship initiatives.

Given this complexity and lack of consensus, in the view of those interviewed, the private sector seeks reassurance from standards on the actions and investments they are making. However, interviewees described the landscape of initiatives as "fragmented" and lacking a consistent message, which reinforced confusion among organisations not already active on water stewardship. This then created a disincentive to act. This is covered in more detail in section 5.2.1. As a result, organisations tended to default to less ambitious water efficiency targets or goals within their own operations:

*"Efficiency is a simple idea [...] and I think there [are] a lot of organisations that they figure 'We'll stop there and in time we'll move on'. I don't think they've moved on that far from 2007 [launch of CEO Water Mandate], unfortunately."*

International or non-governmental organisation

## 4.4 Issues of governance and leadership

The research highlighted two main ways in which issues around governance and leadership create barriers to the promotion and implementation of water stewardship: (1) an absence of the 'enabling' involvement of state actors; and (2) a lack of understanding of how collective action should be governed in practice (e.g. who should lead it, how competing interests should be reconciled, and how actors should be held accountable).

### 4.4.1. The absence of state actors

Interviewees explained that state actors had traditionally been absent or had minimal involvement in water stewardship. We have discussed in section 2.1 how water stewardship

---

<sup>11</sup> A watershed is the geographical zone in which water is captured, flows through and eventually discharges at one or more points.

---

emerged as a private sector response to a perceived lack of progress by countries on IWRM. This was particularly visible in low-income economies. In such circumstances, interviewees explained that outdated water policies and infrastructure often exist which do not support water stewardship. For example, stakeholders referenced the volume of water lost due to leaks in poor public infrastructure which tended to frustrate corporate efforts on water stewardship.

While the promotion of water stewardship is linked to shortcomings in government investment and capacity around water resources management, interviewees felt that water stewardship could only progress so far without the enabling potential of state actors. For example, state actors could promote water stewardship through regulation of water use and creation of market incentives (particularly where water is embedded in consumer products). Interviewees also felt states could play an important mediating role between corporate or business interests and the economic and social interests of other water users (referencing the WASH elements of the AWS Standard):

*“So government has got to play some role of forming a forum for the trade-offs and the interactions between water users and water polluters.”*

Government

Both the literature and interviewees felt government involvement would bring greater transparency and accountability to water stewardship projects (than the private sector acting alone).

#### 4.4.2. Governance of collective action

The second way in which issues with governance and leadership impact on the implementation of water stewardship is through a lack of understanding and consensus on how collective action should operate in practice. Interviewees considered collective action to be a core element of water stewardship which sets it apart from water management. However, as discussed in section 3.1.4, there was a view that existing definitions of collective action remain unclear, particularly on how relationships between the private sector, public sector and other water users should be governed and by whom. They explained that their ability to engage in collective action was limited by a lack of sector specific guidance or case studies on where it had worked in practice.

Shortcomings in guidance and understanding of collective action are accompanied by a lack of alignment on definitions of governance, accountability and related concepts in the context of water stewardship. Interviewees explained that language, cultural and legal differences between countries and regions around the world made consensus on these concepts challenging. There was a view that existing water-related standards had not yet set these concepts out in a way which could be understood and applied globally.

Interviewees also commented on the missing role of government in facilitating collective action. Corporates were viewed as not best placed to align their own interests and those of other water users and stakeholders that they may be in competition with for access to water. Newborne & Dalton (2019) highlighted concerns of resource or policy capture inherent in water stewardship collective action. Powerful water users are able to shape water use in the basin and influence the availability and quality of that water for many other water users. This may not be done in a way that benefits all users but instead that favours the growth interests of a business. Yet, interviewees explained that leadership in such initiatives often falls to the

---

private sector, either due to a lack of capacity within government or because it is not a policy priority.

## 4.5 Target setting and measuring progress

The research highlighted a range of challenges related to target setting and measuring progress. These related to how and where to set targets on sustainable water use, consensus on the appropriate metrics to use to measure progress against targets, and accessing robust and consistent data to assess performance across facilities and sectors.

### 4.5.1. Target setting

In relation to consistent and reliable target setting on sustainable water use, stakeholders identified two issues:

- lack of consensus on the outcomes that water stewardship is intended to achieve
- where outcomes are defined, a lack of clear guidance on how and where to set targets to achieve them

Across the literature and interviews, water stewardship was considered a means for achieving an outcome, rather than an outcome in itself. The AWS Standard sets out 5 outcomes that alignment with the standard is intended to achieve; including sustainable water balance and good water quality status. However, a range of other positions on the end goal of water stewardship existed across the interviews and literature. These included the UN Global Compact CEO Mandate and Water Resilience Coalition's Net Positive Water Impact and stakeholders who viewed the goals of water stewardship as more aligned with those of longer-term climate resilience.

On the second point, stakeholders explained that the AWS Standard does not specify how or where to set targets on water use, only that these should be set in order to meet its 5 outcomes. Stakeholders explained that the recently created Science Based Targets on Freshwater may go some way to address this gap. This was described as a 3-stage top-down and bottom-up initiative. The first stage involves an initial enterprise-level screening of a business's direct operations and upstream value chain (that is, the activities that produce the raw materials for production). This is followed by a materiality assessment of where to set targets, with the final stage involving setting of targets at basin level. However, the Science Based Targets on Freshwater initiative was at an early stage at the time of writing and therefore it will be some time before basin-level targets are in place for even early adopters.

### 4.5.2. Metrics

In relation to measuring progress against targets, interviewees identified a lack of alignment on the appropriate metrics as a key barrier to implementation. Stakeholders explained that the private sector tends to be numbers-led in their investments on sustainability. Businesses want both to be able to see a return on investments and to evidence this to observers (investors and customers) in a way they can easily comprehend. This has led to a preference for simple volumetric measurements of change which do not account for basin-specific conditions or social impacts.

---

Business stakeholders also referenced recent efforts on water reporting and disclosure specifically aimed at investors (including CDP's Water Program, the Task Force on Climate Related Financial Disclosures, the Task Force for Nature Related Financial Disclosure). While these initiatives have been successful in substantially increasing the number of organisations now regularly reporting on water, inconsistencies remain in what is reported and how often. This means it is not possible to consistently track and compare progress on targets across facilities or sectors.

### 4.5.3. Data

Finally, business stakeholders identified challenges to accessing relevant, robust and up-to-date data on water use across their value or supply chain in order to inform their water stewardship actions. Reliable data on water use in the production of raw materials by tier-two and tier-three suppliers and in particular regions of the world (e.g. Latin America, Africa and Asia) are not always available.

*"I think we know all of them [suppliers] by now. Like we've mapped them, which is great, but collecting that information...it's crucial because that's going to be maybe 70 per cent of our water footprint compared to what we have now. Yes, so our risk is going to be much bigger than what we think is our risk now."*

Business

---

# 5. The role of standards

This chapter explores the current role of standards in the promotion of water stewardship, followed by discussion of the possible value of creating a new international standard, and finally, the potential challenges of doing so. The chapter is primarily based on the qualitative interviews. In interviews, there was a relatively broad consensus on the value of standards in water stewardship generally. However, interviewees were divided on whether a new international standard on water stewardship was needed. One group clearly saw a new standard as being a helpful step to ensure action reaches the pace needed to meet current climate challenges, whereas a second group offered reasons for caution around introducing a new standard. This chapter sets out the arguments on both sides.

## 5.1 The current role of standards

The research highlighted a number of roles played by existing initiatives in promoting water stewardship. A broad range of initiatives currently exist, with varying aims and formats. These include:

- tools and methodologies for assessing water risks and impacts (e.g. WWF's Water Risk Filter, WRI's Aqueduct, ISO's 14046 Water Footprint, and WFN's Water Footprint);
- commitment platforms to elevate best practice on sustainable water use (e.g. CEO Water Mandate and the Water Resilience Coalition);
- frameworks for the design and implementation of water stewardship strategies (e.g. AWS Standard);
- water reporting initiatives (e.g. CDP's Water Program, Global Reporting Initiative (GRI)'s Standard 303: Water and Effluents) and;
- initiatives for target-setting on water stewardship (e.g. Science-Based Targets on Freshwater).

These initiatives originated from a range of organisations, including intergovernmental organisations and international standards bodies, with several NGOs being particularly influential.

Collectively, these initiatives were seen as improving awareness and visibility of the role of water in climate-stressed areas, and how this translated to business risk. The multi-stakeholder approach to developing many of these initiatives ensured that key players had coalesced around a high-level definition of water stewardship as involving environmental, economic and social dimensions. The existing landscape had succeeded in setting out a clear role for the private sector in working with and alongside governments to achieve SDG6. While

---

not universal, stakeholders suggested current initiatives had led to a substantial increase in the use of water-related KPIs within the private sector and introduction of new processes for the collection of data on water.

Across the literature and stakeholder interviews, the AWS Standard was generally recognised as having created a model of good practice at the site-level. It was considered rigorous while also allowing sufficient flexibility for actors to tailor their activities to local water issues. While corporations may seek out accreditation for one or more of their operations sites, the aim of the AWS Standard was to improve the quality of water stewardship practice and so the principles contained in the framework could be applied throughout an organisation's value chain (regardless of whether accreditation was an objective). Despite the broad praise for the standard, there were still recognised gaps or areas for improvement, which are discussed in section 5.2.

Aside from the AWS Standard, standards on investor disclosure and reporting (including CDP's Water Program and GRI's Standard 303) had increased the number of companies that were regularly providing information on their water-related activities. Through disclosure standards, companies were compelled to demonstrate priority setting on water to customers and investors. Interviewees suggested that growing engagement in voluntary reporting schemes was building momentum towards mandatory requirements. At the EU level, stakeholders were optimistic about the potential impact of the forthcoming mandatory EU Corporate Sustainability Reporting Directive which will increase the number of companies required to report on water sustainability, including within their supply chain. However, interviewees emphasised that such initiatives provide a benchmark on reporting only, and do not indicate a pathway to good water stewardship as such. Their value is in increasing transparency around the private sector's use of and approach to water.

Stakeholders drew an important distinction between standards, which involve a validation procedure, and unvalidated frameworks or tools. While many of the latter provided helpful guidance and bolstered water stewardship activities, interviewees explained that there was no clear quality assurance process applied to them. This created a risk that companies could align themselves with untested schemes and make claims that did not translate to robust water stewardship practice.

Across the stakeholder interviews, the primary limitation raised about the current landscape was that standards and initiatives on water stewardship are voluntary and therefore non-state actors are not required to engage with them. This has led to inconsistency across organisations with engagement and accreditation remaining at a relatively small scale. Stakeholders explained that sites accredited under the AWS Standard tended only to be in areas of water stress or where there was a higher reputational risk for a business. This suggested sustainable water practices were not being mainstreamed across all operational settings, to include areas not in immediate water crisis.

## 5.2 Potential value of a new standard

Reflecting on the current landscape, stakeholders were divided between those who felt that creation of a new standard would be a helpful step to ensure action on water stewardship reaches the pace needed to meet current climate challenges, and another group who were more cautious about the need for a new standard and saw guidance around how best to use

---

and implement existing initiatives as the preferred outcome. Those in the latter group believed that the information already available was sufficient for companies to become water stewards and gave reasons for caution around introducing a new standard (detailed in section 5.3). Those who were in favour of a new international standard identified a number of gaps or areas where they felt a new standard could add value. This section explores the potential role that a new standard could play and how it could address some of the barriers to water stewardship set out in the previous chapter.

### 5.2.1. Bring clarity on the appropriate approach to water stewardship

Interviewees described a proliferation and fragmentation of water stewardship initiatives, tools and methodologies. Section 4.3 described how the complexity of water stewardship can be a barrier to take up and that businesses therefore sought reassurance from standards that they were taking appropriate action. There was a view among NGOs active in the field that existing initiatives ultimately complement each other, presenting different methodologies and frameworks for different use cases. However, for the private sector, the number and variety of initiatives had contributed to confusion on the 'correct' or most appropriate approach to apply. This had created both fatigue and a disincentive to engage among organisations that were relatively new to the concept.

*“There currently seem to be a lot of approaches that are being tested and that maybe, while they refer to each other, are not entirely aligned - which has the threat of a company doing nothing because it seems to be too unclear what the right thing to do is...which methodology will be so trustworthy that a company feels comfortable that, if they use it, consumers, regulatory environment and so on are all comfortable with saying, 'Because we know this company uses this standard, we can trust that they are taking the right actions.'”*

Sustainability consultant

Interviewees also identified the risk that businesses would select unambitious approaches or those that were most easily understood and recognised by investors, but not necessarily the most robust on water stewardship.

In response, stakeholders felt that a new standard could provide global consensus on key ideas and terminology (such as 'net-positive water impact' and 'replenishment') and a clearer pathway into water stewardship for non-state actors wishing to engage. Furthermore, a new standard had a potential role to play in supporting translation of theory into practice by bringing together case studies of where water stewardship had been successfully implemented as well as sector or country specific guidance. Stakeholders suggested the agriculture sector as requiring particular attention, reflecting the impact of the sector on the health of freshwater systems and that water components of agriculture standards are currently poor. As described in section 4.4.2, there was particular interest in the provision of practical guidance on governance of collective action.

### 5.2.2. Address water stewardship at the enterprise level

For both SMEs and larger corporations, the lack of an enterprise-level standard was viewed as a gap in the current standards landscape. There were a number of ways in which interviewees suggested an enterprise-level standard could help address some of the barriers described in Chapter 4: by providing a pathway to water stewardship at the enterprise-level;



---

creating a stronger incentive for companies to engage in water stewardship; and creating a lever to secure greater investment in water sustainability.

While the AWS Standard provided a model for good practice on water stewardship at the site-level, interviewees explained that there was no equivalent at the enterprise-level. It was therefore unclear to non-state actors what actions they should take as an organisation to move beyond water management.

*“The other purpose is to help people understand the landscape, because site-level stewardship is just one component...We need enterprise-level or corporate-scale standards, which codify or set out what responsible stewards do across the whole piece.”*

International or non-governmental organisation

A number of water-related standards do already exist at the enterprise-level. These include several ISO standards (including those on water efficiency management systems (ISO 46001) and the effective and efficient corporate governance of water utilities (ISO 24540)). However, these were described as having 'niche' uses in the context of water stewardship and criticised as being process- rather than outcomes-based. Interviewees also referenced the WAVE initiative by The Water Council in Wisconsin, through which companies can become certified for following a 6-step methodology to better understand their water uses, impacts and risks and communicate an action plan, goals and timeline. However, as the initiative has only been recently introduced, stakeholders were unsure of its level of traction or rigour.

Secondly, business stakeholders explained that an enterprise-level standard could create a stronger incentive for action on water stewardship. There were two ways in which this could be done:

- by providing a verified means for companies to evidence and make claims to observers about the enterprise-level actions they are taking on water stewardship
- by providing a robust source of reassurance for the level of investment needed to mainstream water stewardship within a company

ISO in this context was viewed as strategically valuable as it has authority and credibility with both customers and investors.

Finally, an enterprise-level standard could help address the challenge of limited organisational resource to implement water stewardship (described in section 4.2). Business stakeholders explained that having a comprehensive and rigorous standard to align with across a company could increase the visibility of water with C-suite management as strategically important (on the same level as other climate priorities) and therefore provide a stronger lever for greater investment to further sustainable water practices.

*“On a global level, a company would start having the right information to, for example, make business decisions around water...Being clear on what that would mean, on what is expected from a company, might make it easier for companies to engage senior leadership saying, ‘Yes, this is what we are doing*

---

*and these are the five things that we need to be implementing throughout all of our operations.'*

Sustainability consultant

### 5.2.3. Increase transparency in target-setting, measuring and reporting

As explored in section 4.5, the research highlighted a lack of consensus around how progress on water stewardship is measured; both in how targets are set and how progress against targets is monitored. Interviewees suggested three ways in which a new standard on water stewardship could help to address this barrier.

#### **Codify an approach to target setting**

Section 4.5 explained that the AWS Standard does not specify how an organisation should set targets on sustainable water use or where it should set them, only that it should have targets in place to meet the Standard's 5 named outcomes. While the Science Based Targets on Freshwater may go some way to address this gap in due course, at the time of writing, the initiative was still at an early stage. Nevertheless, interviewees suggested that a new standard could codify this approach to target setting as part of best practice on water stewardship. Others suggested that a new standard should propose an alternative methodology to target-setting for SMEs. Stakeholders who held this view suggested the science-based targets approach was inaccessible to businesses who lacked the resources to conduct the basin modelling required to set these targets.

*"To develop a science-based target you need to understand what's happening in your river basin in order to determine the proportion of change that you as a company are having and should therefore manage...It requires a really in-depth understanding of what's happening in the places where you're operating ...But it is a very big process to undertake. So, I still see there to be quite a gap for anything other than large water-using entities who are also large corporations."*

Business

#### **Specify metrics**

Business stakeholders also identified a need for consensus on the metrics they should be monitoring and reporting progress against. Section 4.5.2 referenced a number of existing investor disclosure and reporting initiatives. It was felt that creating alignment on the metrics to be used would lead to greater transparency by ensuring that non-state actors were reporting on progress in their water use and impacts in a consistent way.

*"One of the biggest challenges is measuring what the impact is you're having...If everybody is measuring the same thing, then you can consolidate that data into something meaningful."*

Business

Stakeholders also suggested that these existing initiatives, while addressing an organisation's performance on water at a high-level, do not adequately define metrics and indicators of water stewardship at the catchment-level.

---

## Address social impacts

The research also highlighted a current disconnect between the environmental and social components of water stewardship. Stakeholders suggested that, where current initiatives and methodologies consider the impact of water stewardship beyond business operations, they tended to focus on the environmental impacts of sustainable water management. Therefore, there is currently a gap in the effective recording and measuring of the social impacts of an organisation's activity on water stewardship which can create a disincentive to prioritise these aspects. There was a view that a new international standard could define clear indicators for capturing the effects of water stewardship on communities as water users.

*"I think it is sorely needed to talk about not just the environmental risk, but to pull in all the other elements [including the social impact] in a more formal way."*

Sustainability consultant

### 5.2.4. Achieve the scaling-up of water stewardship

Another area in which stakeholders identified the potential value of a new international standard was in supporting the scaling-up of action on water stewardship. Stakeholders felt that a new standard could help to scale-up water stewardship in three ways: by making water stewardship more accessible for SMEs; by expanding the concept's focus beyond the basin-level; and by making regulation on water stewardship more likely.

#### Accessibility for SMEs

It was felt that existing credible initiatives (including the AWS Standard and the forthcoming Science Based Targets on Freshwater) were too resource-intensive for SMEs to fully implement. While this applied to SMEs across industries and sectors, interviewees specifically highlighted SMEs within the supply chains of multinational corporations in sectors that had engaged early on water stewardship (e.g. beverage and textiles) and within the agriculture sector (e.g. small farmers and producers). Resourcing was identified earlier as a key barrier for SMEs to engage with water stewardship (see section 4.2). While SMEs could apply the principles of existing frameworks to their operations, achieving accreditation and therefore recognition for their activities was seen as out of scope. Interviewees suggested a new standard could make water stewardship more accessible to SMEs by setting out a simplified set of expectations and indicators.

*"[AWS is] a rigorous standard and it's therefore quite burdensome, and therefore takes quite a lot of resource to implement and audit against.... What we see as the next step is a sort of risk-based approach, where you retain the heavy lifting and the detailed standard for those high-risk sites and bigger water users, but you can have a streamlined version which would be much easier to apply in settings with lower resource, and easier to certify against."*

International or non-governmental organisation

This could take the form of a traffic light system which could be deployed throughout the value chain. The Fair Water Footprints initiative was referenced as an example of work being undertaken towards this type of approach. The initiative focuses on 5 key elements: zero pollution, sustainable and equitable withdrawal and water use, full access to safe water, sanitation and hygiene for workers, working with and protecting nature, and planning for droughts and floods.

---

## Expanding focus beyond basin-level

Secondly, while stakeholders recognised the importance of basin-level issues to the concept of water stewardship, there was a view that expanding focus beyond this level to bigger picture 'systems' thinking could be beneficial. It was suggested that greater consideration of how water moves globally (over land and between basins either within products or through man-made water infrastructure) could lead to more impactful water stewardship activity. In addition, better alignment with the goals of climate resilience and adaptation would create greater emphases on planning for long-term risks associated with emerging extreme weather events (e.g. floods and droughts). This could lead to greater visibility of water stewardship within the private sector by complementing existing climate strategies. Expanding beyond the basin-centric model could also shift conversations away from 'where' water stewardship should be implemented to 'how' it should be implemented. This was thought to be important from an international development perspective, to ensure corporates are not discouraged from operating in low-income economies where issues of water quantity and quality may be more prevalent.

## Step towards regulation

Finally, stakeholders suggested that a new voluntary international standard could lead to and encourage progress towards the introduction of international regulation on water stewardship. They referenced the 'conveyor belt model' of regulation whereby standard setting bodies like ISO consider the best practices emerging from voluntary initiatives and seek to write rules that can apply globally (Hale, 2022). These consensus-based standards in turn exert upward pressure on national rule making, above and beyond what water stewardship advocates could achieve in isolation. Advocates for stronger rules at the national level are able to point to international best practices as a benchmark for success, and businesses can demand rules that align to international standards.

*"I very much see it in terms of the conveyor belt model and that there's been a kind of a minor win with the CSRD, but that there is so much more that could be done particularly for outside of Europe to be using voluntary standards and then through the ISO system to push regulation. That's what really shifts industry."*

Sustainability consultant

Interviewees explained the importance of regulation to mainstream water stewardship through placing mandatory requirements for compliance on companies. Interviewees suggested that without the influence of a standard such as ISO or those of national standards bodies, governments would be slow to adopt regulation given competition from other political priorities. However, others suggested that regulation was more likely to come about at the industry-level, given the variation in water use between industries. Another view was that without the existing buy-in of the private sector and pressure from other sources (i.e. investors), the impact of regulation on water stewardship may be limited by the enforcement mechanisms in many water-stressed low-income economies.

## 5.3 Challenges to increasing the role of standards

Both those who were in favour of a new international standard on water stewardship and those who questioned the need for one identified three main challenges and potential risks around the introduction of a new standard. These were: the difficulty of creating an enterprise-

---

level standard; the risk of limited uptake and impact; and the risk of creating further confusion for businesses.

### 5.3.1. Difficulty of creating an enterprise-level standard

The preceding section identified clarity on water stewardship action at an enterprise-level as a possible gap that a new standard could fill. However, interviewees highlighted a number of difficulties and risks with creating an enterprise-level standard. These included; the centrality of local basin-level water issues to the concept of water stewardship; the context-specific nature of water stewardship; and the challenges of business reality.

#### **Centrality of basin-level issues**

One view was that an enterprise-level standard would be of limited value given the importance of basin-level issues to the concept of water stewardship. While stakeholders recognised that corporates are keen to make claims on an enterprise-wide basis, the need to make an international standard all-encompassing and universally applicable creates a risk of 'greenwashing'. Interviewees who raised this issue expressed concern that an international enterprise-level standard could reduce water stewardship to a volumetric measure, disregarding the particular environmental and socioeconomic needs of a specific basin. Indeed, it was suggested that if a robust business-wide standard was feasible, it would have already been created.

#### **Context-specific nature of water stewardship**

Secondly, as discussed earlier in section 4.3 the sustainable use of water is a complex area with the appropriate measures to implement water stewardship varying depending on how water factors into a business's operations, as well as location and seasonality. Given this, interviewees suggested that a suite of tools and initiatives is required to reflect that there is no one 'right' way of doing water stewardship. There was a view that an enterprise-level standard on water stewardship would inevitably be too general for non-state actors to effectively action and therefore would be ignored.

*"I think if you do an international standard, what you will end up with is, '[...]Oh, that doesn't apply to me. Oh, that is too general, or using words that I don't identify with,' because different countries use different words for...the same meaning."*

Sustainability consultant

#### **Reflective of business reality**

To be of value, interviewees explained that an enterprise-level standard would need to be adequately ambitious but also reflective of business reality. For example, it would be key for any new standard to address an organisation's full value chain, while at the same time recognising the significant engagement required to disentangle multiple tiers of suppliers.

---

*"In a way that is [...] pragmatic and precise to business reality. Not wishfully thinking, but in a reality where actually we operate in an economy that is sadly still very often a black box [...]."*

Sustainability consultant

### 5.3.2. Limited uptake and impact

Interviewees identified a possible risk that a new standard could have limited buy-in and uptake by non-state actors. There were two main reasons for this view.

The first was that while water stewardship is a recognised term among key global players, it is not widely known outside a relatively small circle and is not yet seen as a priority to address among many SMEs or companies in low-income economies (where the focus can still be on service provision). Given this, there was a view that efforts should be concentrated on increasing awareness and take up of existing standards that have already gained some traction with the private sector.

Secondly, while recognising a gap for an enterprise-level standard on water stewardship, stakeholders also acknowledged that there is general fatigue around sustainability standards in the business community. In order for a new standard to have any impact therefore, it needs to have a clear purpose and achieve buy-in from key water stewardship global players (both brands and NGOs) from the outset. Interviewees suggested two ways to address this issue of buy-in:

- ensuring a thorough consultation process is undertaken to develop the standard (as is the usual approach to developing a new standard)
- clearly demonstrating the business case (i.e. the financial benefit) of adopting the standard.

Any new standard needs to be clear about the opportunities it could offer for those engaging with it, particularly for SMEs that may be easily put off by increased burden. As one stakeholder stated based on prior experiences:

*"You needed to convince them [SMEs] of the benefit of getting ISO certified [...] it was such a heavy administrative process... so the companies need to see the benefits of it, and what markets it will open for them."*

Government

### 5.3.3. Creating further confusion

A key concern for those who were sceptical about the need for a new water stewardship standard was the risk it would add further confusion to an already complex landscape of tools and initiatives. Stakeholders that held this view thought a mapping exercise to guide non-state actors on the best existing methodologies to use may be more beneficial. It should be noted that some work is already underway around mapping, namely WBCSD's FAN.

It was felt that a new global standard should take care not to introduce any new methodologies and concepts, but to complement existing resources, so as not to disrupt progress already made or duplicate efforts.

---

*"I'm a little worried it might create confusion. I know years ago when we started working in water stewardship, there were so many tools and resources out there. [...] people that work in water stewardship, the corporate leads are so busy and it's almost like please don't give me another tool I have to consider [...]"*

Sustainability consultant

Those who held this view suggested existing standards could instead be adapted or expanded to address some of the gaps identified in section 5.2, such as addressing water stewardship at the enterprise level.

NGOs and consultancies working to promote and support water stewardship activities also suggested that a focus on standards can at times "get in the way" of good work on sustainable water use and that instead businesses should be encouraged to take action and communicate it well rather than being preoccupied with standards alignment.

---

# 6. Conclusions and areas of further research

The findings from this research suggest four main areas of focus for national standards bodies in the immediate future: understanding how to balance site-level and enterprise-level priorities; developing a more advanced understanding of collective action; exploring the needs and capabilities of SMEs; and pursuing opportunities to promote existing standards.

## 6.1 Integrating site- and enterprise-level priorities

A clear learning from the research is that considerations around sustainable corporate water behaviour operate at two levels:

- the site level, which primarily concerns local water quality and quantity issues for users within a basin or catchment, and
- the enterprise or corporate level, which concerns how water factors into strategic business decisions and the role of water in regional or global value chains, amongst other things.

A key consideration for any new standard is to decide whether and how to advance the priorities of stakeholders at both levels. At present, there is a recognised robust water stewardship standard at the site-level (the AWS Standard) while disclosure and reporting mechanisms have a corporate-level focus. A future area of focus may be to identify standards in other domains which operate successfully across two tiers of application in this way, and to better understand how this may be done for water stewardship. Any new standard on water stewardship will likely need to consider how the various elements needed for the promotion and implementation of water stewardship (including risk and impact assessments, target-setting, metrics and data collection) can be applied across both levels.

## 6.2 Informing collective action

Across the literature and interviews, collaboration through collective action was viewed as an important way in which water stewardship was distinct from water management (for further explanation of collective action and water management see section 2.2). However, there have been a limited number of collective action efforts up to now, with companies continuing to focus on where they can achieve change individually and improve efficiency within their own operations. As discussed in section 4.4.2, the challenges inherent in coordinating multiple stakeholders in joint action are magnified by:

- limited practical and sector specific guidelines on how collective action should operate



- 
- few case studies on where it has been successful in practice (the literature and interviews highlighted a number of examples including a WWF-led initiative within the textile sector in Vietnam, the work of the Latin American Water Funds Partnership, and an initiative within the Kunshan Economic-Technological Development Zone in China (Spencer & Xu, 2021)), and;
  - a lack of global alignment on the meaning of terms such as 'governance', 'accountability' and 'responsibility' as they relate to water stewardship.

A useful area of future research would be to identify and bring together examples of best practice in collective action. This work should aim to better understand when a collective action initiative is considered successful: that is, what outcomes it achieved and how. National standards bodies can also seek to clarify how considerations, levers, and challenges for collective action differ across sectors and regions, and identify entry points to collective action for organisations with more limited resources (than the multinationals that have tended to be the main private sector actors in water stewardship collective action to date).

## 6.3 Engaging SMEs

Currently within the private sector, multinationals tend to be the main actors in water stewardship activity. However, stakeholders described an increasing sense that SMEs represented a 'missed opportunity' to expand action on water. The research highlighted the distinct circumstances and challenges faced by SMEs. Their capacity and capability to implement water stewardship is often lower. They can lack the financial resources of multinationals as well as the influence needed to action the more advanced elements of water stewardship (namely, collective action and advocacy). Interviewees therefore highlighted the need to make water stewardship standards more accessible to this private sector tier in order to encourage their engagement.

An important priority when deciding the objectives and content of any new standard will be to understand, in detail, the needs of SMEs. Important implications to consider are:

- the business case for engaging in water stewardship for organisations of this size;
- the technical burden of understanding the appropriate actions to take in a complex area, and;
- the data requirements to both understand their water risks and impact and monitor progress against targets.

At the same time as recognising the particular needs and capabilities of SMEs, any new standard should be sufficiently ambitious to add value and not enable organisations to make claims against little more than business as usual. Interviewees acknowledged that this could be challenging.

## 6.4 Promoting existing standards

The research highlighted the importance and impact of existing water-related standards (most notably the AWS Standard as a rigorous site-level standard and the CDP's Water Program as setting the standard on corporate water disclosure). Interviewees acknowledged the need to increase engagement with these voluntary initiatives in order to meet growing freshwater and climate challenges. Any new standard should consider how best to bring further awareness

---

and visibility to initiatives which are considered credible and already have traction with non-state actors. In this way, a new standard could have an amplifying effect on existing action.

The research also highlighted the need to increase the visibility of water more generally in terms of its importance in business continuity and to meet climate resilience goals and objectives. Some interviewees highlighted that national standards bodies should prioritise achieving this through:

- making water more prominent in the existing wider set of sustainability standards, including ISO standards, and;
- where standards already encompass water elements, making requirements more stringent, in line with water stewardship.

In this way, national standards bodies could have a transformative effect by leveraging standards through which companies are already engaged.

---

# Appendix A. Bibliography

Alliance for Water Stewardship, 2018. AWS Global Water Stewardship Forum 2018 Summary Report, s.l.: AWS.

Alliance for Water Stewardship, 2019. *International Water Stewardship Standard Version 2.0*. Scotland: Alliance for Water Stewardship.

Fahrback, S. et al., 2022. *A Recipe for Impact: Key Ingredients for Companies to Drive Measurable Impact in Watershed Health*, s.l.: ABinBev; The Nature Conservancy; Bluerisk.

Forbes, M., 2018. *The Evolution of Water Stewardship: An Australian Perspective*, s.l.: The Australian Water Partnership.

Forin, S., Berger, M. & Finkbeiner, M., 2018. Measuring Water-Related Environmental Impact of Organizations: Existing Methods and Research Gaps. *Advanced Sustainable Systems*, 2(10).

Fraser, J. & Kunz, N., 2018. Water stewardship: Attributes of collaborative partnerships between mining companies and communities. *Water (Switzerland)*, 10(8).

Hale, T., 2022. *The Net-Zero Governance Conveyor Belt*, s.l.: Kleinman Center for Energy Policy.

Hamilton, R., 2019. From water management to water stewardship - a policy maker's opinion on the progress of the mining sector. *Water (Switzerland)*, 11(3).

Jia, F., Hubbard, M., Zhang, T. & Chen, L., 2019. Water stewardship in agricultural supply chains. *Journal of Cleaner Production*, Volume 235, pp. 1170-1188.

Latta, A., 2018. Indigenous rights and multilevel governance: Learning from the Northwest Territories water stewardship strategy. *International Indigenous Policy Journal*, 9(2).

Morgan, A. J. & Orr, S., 2015. *The Value of Water: A framework for understanding water valuation, risk and stewardship* Discussion Draft, s.l.: WWF International; International Finance Corporation (IFC).

Newborne, P. & Dalton, J., 2016. *Water Management and Stewardship: Taking stock of corporate water behaviour*, Gland, Switzerland and London, UK: IUCN; ODI.

---

Newborne, P. & Dalton, J., 2019. *Review of the International Water Stewardship Programme - for lesson-learning*, s.l.: DFID.

Ofosu-Amaah, N. et al., 2021. Nature-based solutions and corporate water stewardship. In: *Nature-Based Solutions and Water Security: An Action Agenda for the 21st Century*. s.l.:Elsevier, pp. 337-359.

Spencer, M. & Xu, Z., 2021. Water Stewardship: Engaging Business, Civil Society and Government in Collaborative Solutions to China's Freshwater Challenges. In: *Governing China in the 21st Century*. s.l.:Palgrave Macmillan, pp. 193-224.

Whyatt, L. et al., 2021. *Water: The 'True' Cost*, s.l.: Barclays.

World Wide Fund for Nature, 2016. *WWF's Implementation Guide to The Alliance for Water Stewardship's International Water Stewardship Standard*, s.l.: WWF.

World Wide Fund for Nature, 2017. *Collective Action for Better Governance: Implementing water stewardship with micro, small and medium enterprises in China, India & Pakistan*, s.l.: s.n.

World Wide Fund for Nature, 2023. *Scaling Up Water Stewardship: WWF's refreshed water stewardship vision*, s.l.: s.n.

---

# Appendix B. Methodology

This research comprised a small-scale literature review and in-depth online interviews with key stakeholders working in water stewardship. This research took an iterative approach, with learnings from the literature review informing the design of the interview topic guide.

## Literature review

### Search and screening

The aims of the literature review, rather than providing a comprehensive overview of the literature, were to: ensure that that research team sufficiently understand the topic; inform the development of the interview topic guides; and provide high-level context for interpreting and reporting on the interview findings.

We decided to conduct a small scale literature review for this project, as the existing body of literature on water stewardship is relatively narrow. We located relevant literature using Scopus, Google Scholar and web searching. We took a two stage approach of title and abstract screening, followed by full text screening to narrow down the relevant literature to a long-list of 29 sources. Out of these 29 sources, we recommended 16 be taken forward to extraction, as these were the most directly relevant. The final source list included seven academic sources and nine grey literature sources.

### Data extraction and synthesis

Data relevant to the research questions were systematically extracted from the selected sources and arranged in an analysis framework. NatCen's 'Framework Approach' was used to develop this, where columns represented key themes and sub-themes and rows represent pieces of evidence within a matrix. The framework was developed alongside BSI, based on the research questions and emerging themes from the initial stages of the literature review.

## Stakeholder interviews

### Sampling and recruitment

Key stakeholders associated with water stewardship were approached by BSI and Water Foundry as a first step. Those who expressed interest were then contacted by NatCen to arrange an interview. At this stage, we shared a summary of the interview discussion topics with stakeholders, to give them a chance to prepare. Twenty interviews took place in total.

---

Stakeholders included people working in international and non-governmental organisations, in environment or sustainability consulting roles, within businesses and within government.

Stakeholder type	Number of interviews
Sustainability consultant	5
International and non-governmental organisations	9
Business	3
Government	3

## Interviews

In-depth interviews lasted for 45 minutes and covered the following key topics:

- Understanding of water stewardship and related concepts
- Current actions involved in towards water stewardship
- Barriers to implementing or promoting water stewardship
- The current role of international standards

The topic guide was designed to be flexible and allow stakeholders to discuss in depth the particular area of water stewardship they were associated with. Fieldwork took place between August and November 2023. Interviews were conducted over video call and were audio recorded with permission.

## Data management and analysis

Interviews were transcribed and relevant insights were extracted into an analytical framework. The framework used was a streamlined version of the framework designed for the literature review. Evidence from the literature and interviews was synthesized for each key research question and organised into the final report structure.