

## **The Water Diplomacy Handbook**

### **Why a handbook? How will it be different from other publications?**

With your contribution, we will create an accessible reference for those seeking negotiated resolutions to water conflicts and dialogue opportunities at the transnational, subnational, and community scale. Many publications address these issues only at a theoretical level, and we see a compelling need for a handbook that is practice-oriented in content, structure, and its approach to theory-practice synthesis. Specifically, this handbook proceeds from the standpoint that there are no generalizable solutions to complex water problems. Instead, it emphasizes practical guidance on how and why the problem context shapes the space of actionable strategies. To this end, the handbook is structured so that readers can quickly find relevant material on the problem-specific challenges they are facing. It combines a broad introductory survey with concise topical chapters contextualized by a series of case studies. This careful synthesis of theory and practice provides a principled and pragmatic framework for addressing complex water problems through Water Diplomacy. We hope you will join our diverse group of academics and practitioners and add your voice to this collective and collaborative effort.

### **Who is this book for?**

The handbook will be a practical companion for anyone working to achieve a negotiated resolution to a water conflict or to strengthen emerging cooperation over a shared water resource. It will utilize accessible language and does not presuppose any specific background knowledge. The handbook will serve as a primer for those who want to start negotiating over shared waters and a source of practical insights for those who are already engaged in a negotiation process, whether they serve as principal negotiators, dialogue facilitators, external observers, or as a member of a preparation team. Researchers of water negotiation processes will find value in the handbook's case studies and their contextualization within the Water Diplomacy Framework. It will help geopolitics experts better understand political dynamics in water-scarce regions across the globe, and economic analysts better understand the role of water and societal resilience when assessing market stability. Broadly speaking, this handbook will be valuable to anyone seeking a better understanding of conflicts over shared water resources and tools for conflict prevention, mitigation, and resolution of water and related disputes. In other words, this handbook will be an accessible resource for water scholars, professionals, policy, community and opinion leaders, and everyone in between.

## About This Handbook

The most challenging contemporary water problems cross scales and boundaries. These boundaries are not just natural (e.g., between ecosystems); they are also societal (e.g., between cultures and sectors) and political (e.g., between states and communities). Water flows downhill by gravity in one moment, only to be drawn uphill towards money and power in the next. Steam is released from a power plant in one region, only to condense and acidify a sacred river in another. Floodwaters are seen as an agricultural boon by one community, only to be deemed a residential hazard a few kilometers downstream.

The “water cycle” presented in many textbooks shows the journey of water as it is transformed by natural forces, but this story is incomplete. As water moves between natural and human systems, it undergoes societal and political transformations that are just as plentiful and important. A more comprehensive picture of the water cycle would show the complex couplings that water creates as it crosses natural, societal, and political boundaries. Such couplings are at the heart of many of our most pressing water challenges, but they cannot simply be undone, nor can they be ignored without peril. If we are to make progress on the challenges we face, we must acknowledge their complexity and develop a principled and pragmatic framework for moving forward. Such is the aim of the growing interdisciplinary field of Water Diplomacy.

This handbook presents the latest insights from Water Diplomacy thinking and practice. Water Diplomacy is an evolving framework for addressing complex water problems at multiple scales – from transboundary water conflicts to distributional inequities within a state, to disputes between endangered fish and indigenous farmers. Here, Water Diplomacy refers not only to the official state-sanctioned diplomacy that happens in official meetings but also to *being diplomatic* in the ordinary, local, and often informal circumstances in which water is contested. In this broader view, *diplomacy* refers to a negotiated problem-solving approach that is both principled (i.e., rejects options that compromise or ignore values) and pragmatic (i.e., acknowledges that contextual constraints may necessitate negotiation of interests).

This broader notion of diplomacy is aligned with both its traditional and contemporary conceptualizations (e.g., multi-track diplomacy) but extends its reach to problems on smaller scales and in local contexts. In the same vein, we regard Water Diplomacy as an inclusive interdisciplinary field including technical, legal, and governance tracks contributing to a wide

range of other related notions spanning from peace and security, resource and employment security, to technical issues related to the management of shared resources. This handbook thus aims to be a reference point for actors and institutions that contribute to Water Diplomacy processes but have divergent perceptions of shared risks and opportunities, especially in situations where water can become a source of conflict or cooperation.

In assembling this handbook, we have sought to collect, refine, and synthesize actionable insights from the latest thinking on achieving equitable and sustainable water governance and management in complex contexts. In it, you will find a synthesis of several paradigms, methods, and tools that embrace divergent societal views in concert with convergent ideas from science, engineering, law, policy, and negotiation. In our choice of contributing authors, we have striven for a diversity of views, backgrounds, gender, and geography. We believe that this offers a more nuanced view of our selected case studies and a more balanced perspective on how Water Diplomacy is conceptualized and practiced throughout the world.

We are calling this volume a handbook, not because it is authoritative and comprehensive, but because we hope it will serve as a valuable reference for those engaged in addressing complex water challenges. It shouldn't be considered a cookbook full of reproducible recipes but rather a chef's companion cataloging common kitchen terminology, suggesting spice combinations, and detailing culinary techniques in the context of a selection of case studies documenting both successes and failures.

The handbook aims to offer actionable insights to those engaged in Water Diplomacy in a variety of roles (e.g., engineers, policymakers, dialogue facilitators and mediators, observers, stakeholders), contexts (e.g., competing and conflicting needs for water; transboundary water disputes; water policy development, and implementation; environmental protection), and at various stages in the process (e.g., coming to terms with the notion of complexity; identifying and convening stakeholders in fact-value deliberation; developing creative options; embracing adaptive management and an emergent future).

## Key Themes

1. **Boundary-Crossing Problems.** We argue that the most challenging contemporary water issues are boundary-crossing problems that arise when water moves between natural, political, and societal systems. In that sense, the term “boundary” does not refer exclusively to physical boundaries between natural systems, nor does it refer strictly to political boundaries between states or administrative units. It also refers to the cultural and sectoral boundaries that water crosses as it transforms from a polluted river into a sacred entity. Taken together, we find that as water crosses these natural, political, and societal boundaries, it often creates complex couplings between natural and human systems.
2. **Embracing Complexity.** The boundary-crossing nature of many contemporary water challenges leads to a complex coupling between natural and human systems. Roughly speaking, we are referring to the traditional distinction made between systems governed by invariant physical laws (natural systems) and those involving norms and behaviors (human systems). For all of human history, water has connected natural and human systems. However, in managing and governing water, we have primarily treated these as coexistent but separable concerns. A growing body of literature on the coupling of natural and human systems suggests this assumption of separability is misplaced and increasingly untenable.

With greater and greater frequency, scholars and practitioners are identifying phenomena that defy the dichotomous description of natural or human. These phenomena also resist description by parts: they cannot merely be “built up” from natural or societal components. In short, such phenomena are said to be *emergent*, a defining attribute of the behavior of *complex* systems, where cause-effect relationships are ambiguous and non-prospective, and predictive uncertainty is often broad and irreducible. The challenges posed by complex systems render many traditional problem-solving frames ineffective or even counterproductive. We argue that embracing this notion of complexity requires a negotiated approach to problem solving that is principled and pragmatic.

3. **Diplomacy as Negotiated Problem Solving.** Traditional problem-solving frameworks are adequate to address many simple or even complicated water problems where reasonable scientific certainty and consensus about appropriate interventions exist. However, many of our most challenging complex water problems arise in complex contexts that lack scientific certainty and societal consensus. Addressing these challenges often requires a negotiated

approach to problem solving that involves interdisciplinary collaboration, fact-value deliberation, and joint fact-finding with a broad array of stakeholders. Since robust management in complex contexts requires ongoing re-evaluation and adaptation, these stakeholder collaborations must be sustained long after initial agreements are reached. Traditional reductionist and expert-led problem-solving frames are often inadequate and counterproductive in such situations. Water Diplomacy is a framework aimed at addressing this shortfall.

Water Diplomacy adopts a notion of *diplomacy* that extends beyond the official state-sanctioned diplomacy that happens in formal meetings and is inclusive of *being diplomatic* in the ordinary, local, and often informal circumstances in which water is contested. Here, diplomacy describes a negotiated approach to problem solving that is both principled and pragmatic. Water Diplomacy is *principled* because it rejects options that entail a compromise of *values*, it is *pragmatic* because it recognizes that actionable outcomes may entail compromises in *interests*, and it is *negotiated* because it identifies acceptable interventions through inclusive dialogue that allows values and interests to be discerned from stated positions. In this sense, Water Diplomacy adopts a middle path in addressing complex water problems, avoiding uncompromising dogma on the one hand and the uncontextualized application of science and technology on the other. It recognizes both the objectivity of scientific methods and the plurality of subjective interpretations while seeking actionable outcomes consistent with local capacities, constraints, and cultural values.

**4. One Framework, Three Uses.** We identify three different application contexts that have motivated the development and practice of the Water Diplomacy Framework.

**4.1.** Water Diplomacy finds its most immediate application when **water is a source of conflict**. For example, conflicting priorities for water use can lead to *value conflicts*, disproportionate harm borne by marginalized communities can create *identity conflicts*, and disagreement over water rights can lead to *distributional conflicts*. In these cases, Water Diplomacy is motivated by the notion that sustainable and equitable resolutions to these water conflicts can best be addressed through a negotiated problem-solving approach.

- 4.2. Water Diplomacy is also useful when **water is an incentive for cooperation**. Even in cases where water is not intrinsic to an ongoing conflict, introducing water-based incentives into negotiations can offer expanded opportunities for cooperation. Water is a flexible resource that is connected across sectors and subject to seasonally changing availability and demands. Creative options that leverage these factors can incentivize multi-party cooperation within larger peacebuilding processes or even in contexts where conflict is absent.
- 4.3. Water Diplomacy also provides foundational ideas for **operationalizing adaptive water governance and management**. Complex water challenges are rarely resolved with finality and often require an ongoing process of adaptive water management and governance. Such processes must often proceed in light of deep uncertainties about the future. Any shared vision for long-term adaptive management and governance must be attentive to a plurality of interests, values, and perspectives, and that navigating this pluralism requires the convergence of principles and pragmatism in an inclusive negotiated approach to problem solving.
5. **Scales.** Water Diplomacy is a framework for addressing complex water problems at multiple scales – from transboundary water conflicts, to distributional inequities within a state, to disputes between endangered fish and indigenous farmers. While providing a common framework, we expect that Water Diplomacy needs to be operationalized differently at different scales. In the handbook, we distinguish the transnational, subnational, and community scales. We use these scales to arrange our case studies and to contextualize scale-dependent factors that will be referenced in our topical chapters.

## **Editors**

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- **Mr. Kevin M. Smith** – Mr. Smith is an NSF IGERT Fellow in Water and Diplomacy and a PhD Candidate in Environmental and Water Resources Engineering at Tufts University and recently co-edited the volume *Interdisciplinary Collaboration for Water Diplomacy: A Principled and Pragmatic Approach*.
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