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The Wetland Contract as a Governance Tool to Manage Conflicts in the Venetian Lagoon

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Abstract
Venice and its Lagoon, a vulnerable UNESCO World Heritage property, requires innovative governance tools to manage its complexity amid intensifying impacts of climate change. The local community has the potential to act as a living laboratory for testing new approaches to climate change mitigation and adaptation. This article examines the participatory process behind the Wetland Contract for the Northern Lagoon of Venice, a government instrument designed to strengthen protection of the lagoon's wetlands. The initiative brings together diverse stakeholders and local actors who commit to managing, restoring and protecting wetlands in a coordinated manner. The contract aims to balance competing priorities of socioeconomic development and biodiversity conservation.

Policy Recommendations

- Provide greater support to the Wetland Contract and reduce institutional distrust. Public and political bodies should upscale this governance model to a systemic management tool capable of addressing aspects of the lagoon ecosystem that may otherwise be neglected.
- Trust the participatory process. Acknowledge the value of trans-scale and multi-actor engagement as a democratic approach that fosters the socio-ecological relationships essential for shaping the territory in a constructive way.
- Exercise patience and commit to long-term engagement. Recognize that implementing effective bottom-up governance requires a substantial and sustained investment of time.

KEYWORDS

UNESCO World Heritage
Venice
wetland contracts
collaborative planning
commons

WATER ICONS



CLIMATE

A B **C** D E

Cfa: Humid subtropical climate



< Fig. 1 The northern Venetian Lagoon, Venice (Source: Maria Chiara Tosi, 2020).

Introduction

Wetlands are essential ecosystems. They cover only 6 per cent of the earth's surface, or approximately 12 million square kilometers, but they absorb 30 per cent of the free carbon dioxide in the atmosphere and play a key role in supporting biodiversity (Pileri 2015). However, nearly 90 per cent of European wetlands – and 60 per cent of those in Italy – have been lost since the 1970s due to severe erosion related to human activities. Some wetlands are over-exploited for fish, fuel and water; others are drained and converted for farming activities and urban development. Even if safeguarded by the Ramsar Convention, wetlands are extremely delicate ecosystems. A 36 per cent decrease in plant and animal species is correlated with this erosion (Gardner et al. 2015).

The Venetian Lagoon is the largest wetland area in the Mediterranean basin (500 km^2). Like many other wetlands, it has been significantly reshaped by human activities, particularly through land reclamation for agricultural and industrial purposes. The landscape was previously characterized by extensive marshes that linked land and sea. Recent decades show a negative balance in the transformations of the salt marshes, marked by pronounced erosion. The main cause seems to be subsidence, resulting from the compaction of clay sediments and peat, followed boat traffic and natural wave motion (D'Alpaos 2010).

Spatial planning and design tools must be attentive to the diverse needs of this fragile ecosystem. They should consider the plurality of stakeholders, including both human and non-human actors, to address wetland-related and climate-driven challenges, and to advance governance systems for protection. Three primary considerations are important for spatial planning and design when dealing with wetland ecosystems. First, interventions should be guided by ecological perspectives. Second, planning should recognize the multiplicity of life forms and develop forms of representation that allow non-human entities to communicate their specific needs. Third, co-creation of social capital through strong collaboration among all actors present in the territory is essential for environmental protection.

The Wetland Contract is emerging as a governance instrument designed to address these challenges. The Wetland Contract has its foundation in the River Contract. Already tested in France, Belgium, Spain and Italy, the River Contract is a method of water management consistent with EU environmental policy (e.g., the Water Framework Directive, Floods Directive, River Basin Management Plan) that relies on the active engagement of the main stakeholders in participatory planning. The contract represents a formal agreement through which public and private territorial actors voluntarily commit themselves to realizing strategies and projects that balance public utility, private economic returns, social value and environmental sustainability. In Italy, River Contracts have been in use since 2000, taking shape through various institutional pathways across community programs and local and regional initiatives.

Following this model, the Wetland Contract brings together stakeholders within a defined region to jointly develop and share an action plan to preserve and enhance local wetland environments. This shared framework seeks to overcome governance fragmentation in wetland management, which often results in overlapping conservation goals and management practices that threaten sustainable development and biodiversity. By promoting coordinated decision-making across levels of governance, the



^ Fig. 2 The northern Venetian Lagoon, Atlante della laguna di Venezia (Source: https://www.atlantedellalaguna.it/?q=maps#tema-1-titolo).

Wetland Contract tool aims to mitigate tensions between preservation needs, economic activities (e.g., agriculture, aquaculture and tourism), natural heritage enhancement and environmental protection.

Recognizing the "hydro-social" dimension of wetlands – the spatial configuration of people, institutions, water flows, technologies and ecosystems – participatory practice must be closely aligned with decision-making structures. This is consistent with the EU Water Framework Directive from 2000 and earlier international frameworks, such as the Ramsar Convention (1975) and the Barcelona Convention (1978). This enables not only broad stakeholder inclusion but also the implementation of meaningful capacity-building and empowerment throughout the process.

The two following micro-stories draw a path, from a brief initiative to establish a Park for the Northern Lagoon to the ongoing experience of the Wetland Contract for the Northern Lagoon of Venice (WCNL) (figs. 1 and 2). They represent two different approaches, one seeking top-down approval and the other relying on bottom-up engagement, to manage the fragile and amphibious lagoon territory and to protect and promote the conflicting values supported by human and non-human actors co-existing in this territory.

The Attempt to Establish a Northern Lagoon Park

As a way to balance conservation and development in the Venice wetlands, the idea of a nature park gained momentum in the early 1970s. The great flood of 1966, which exposed the fragility of the lagoon system, catalyzed this process. Over subsequent decades, the concept of a lagoon park evolved through a series of

collaborations, initiatives and shifting priorities. Early efforts focused on physical, ecological and social degradation, and were led by Fronte per la Difesa di Venezia e della sua Laguna, an organization headed by Pino Rosa Salva (Mencini 2021). Throughout the 1980s, the idea of a lagoon park continued to develop through various conservation-focused exhibitions and publications (Mencini 2021).

In 2003, these ideas were formalized with the establishment of the Istituzione Parco della Laguna (Lagoon Park Institution). This public body aimed to safeguard the lagoon's environment and promote sustainable ways for local communities to live with and from the lagoon. It engaged stakeholders across Isola dei Laghi, Forte Mazzorbetto and Tenuta Scarpa Volo – three islands within the lagoon. A central function of the Istituzione Parco della Laguna was to support bottom-up projects by facilitating regional collaboration and assisting with fundraising (Favaro 2011).

Yet the broader goal of a nature park persisted. By 2014, political momentum for transforming the Istituzione into an official lagoon park had grown. In May of that year, a favorable vote in the Municipal Council led to the legal establishment of the Regional Environmental and Anthropological Park of Local Interest in the Northern Lagoon (Comune di Venezia 2014). After nearly half a century of development, the project appeared to have achieved firm political recognition. However, only months after the park's approval, Venice experienced a sudden shift in municipal leadership. A new administration was elected, stalling the environmental planning process mandated as part of the park's establishment. Under the new leadership, just two years later, in 2016, the designation of the park was revoked by the Municipalità di Venezia-Murano-Burano (2016).

Consequently, the media declared the park "dead" (*Live in Venice* 2016; *La Nuova di Venezia e Mestre* 2016; *Venezia Today* 2016). Opposing politicians argued that existing designations under UNESCO and Natura 2000 provided sufficient protection for the lagoon, and that establishing the park would add unnecessary regulatory layers to the management of the northern lagoon (Municipalità di Venezia-Murano-Burano 2016). Some interest organizations, including one of hunters, were also reported to be against the park (*Venezia Today* 2016). Additionally, critics questioned the park's geographic scope, contending that its effectiveness in managing the lagoon's complex socio-ecological dynamics would be limited if it covered only the northern section of the Venetian Lagoon. The attempt to establish a northern lagoon park failed because of a lack of political support and essentially because of political disagreement about how best to manage the wetland environment of Venice.

The park's long history as a concept but brief existence as an official entity reveals the complex political situation of environmental governance in Venice and the persistent challenges of developing collaborative, cross-sectoral visions. Although never formally implemented, the vision for the park promoted a holistic approach to lagoon management. It framed the lagoon as a space of integrated socio-ecological relationships, but the time was not ripe for an institutionalized framework for its management, beyond international designations.

The Wetland Contract for the Northern Lagoon of Venice: Lagoon as Commons

The Venetian Lagoon consists of three parts: the northern lagoon, the central lagoon and the southern lagoon. The northern lagoon perimeter – affected by the above-mentioned brief

institutional experience as a nature part – has been used to outline the territorial limits of the WCNLV initiative. This is a voluntary and bottom-up governance process that has been ongoing since 2021, led by Università Iuav di Venezia and co-funded by the EU through two Italy-Croatia Interreg projects, namely CREW (2018–2021) and GREW (2024–ongoing). The Iuav team focused on the northern part of the lagoon as a pilot area to test the Wetland Contract as a participatory governance tool because the 220 km² area of the northern lagoon is the best-preserved in terms of its ecological balance, boasting high biodiversity, with both sandbanks and marshlands. Moreover, it is also a field of conflict, where various projects, claims and political interests intersect (Pace et al. 2022).

The Wetland Contract aims to identify feasible actions undertaken by various stakeholders and local actors that integrate environmental protection with economic and social development from a sustainable perspective. It is a tool that primarily advocates for human and non-human subjects that are usually underrepresented, such as interest groups and third sector associations, but also flora, fauna and naturalistic site-specific values linked to this amphibious territory (De Marchi and Pace 2022).

The process began in September 2019 and consisted of five phases: (1) information sharing and intention declaration, (2) animation and listening, (3) proposal and dialogue, (4) negotiation and commitment and (5) conclusion and signature. It has involved a variety of participatory exercises, such as individual and collective meetings, a survey, several online forums, roundtables, and tours by land and water. It has involved different stakeholders (e.g., municipality representatives, associations, other public and private bodies, and institutions) to engage them in the process, collecting ideas, and positions on the most urgent topics to be implemented in the lagoon. The set of values that emerged outlined the Action Plan as the primary operational document for governance, establishing stakeholders as responsible for a wide range of activities to be carried out over the five years of the contract's implementation. In July 2021, the WCNLV was finalized, and it is currently monitored by two Lagoon Assemblies per year, where contract signatories meet and discuss the implementation of activities. Assemblies are also an arena to welcome new potential signatories and to discuss synergies and new projects.

The WCNLV has achieved several important milestones so far, including expanding its network, connecting with partners and projects and increasing mutual knowledge about the lagoon's life cycle. On the other hand, WCNLV has faced obstacles and problems during the process, mainly related to the political opposition of some public authorities like the Metropolitan City of Venice, which conditioned the involvement of some institutional partners in the project, and, in some cases, demanded their withdrawal. During the second ongoing phase supported by the GREW project, the Wetland Contract will be implemented as a climate change strategy tool with mitigation measures carried out by local stakeholders and involving very specific activities to address climate change in everyday life.

The WCNLV has generated a strong sense of shared responsibility for the lagoon in the community. In this sense, the lagoon is being recognized as a commons and the Wetland Contract is intended as a set of material and immaterial matters necessary to fulfill collective social and ecological needs (Capone 2023). Considering the lagoon as a commons encourages

a life-centered perspective in which all living beings and biodiversity are worth equal dignity and consideration. The tool is based on a new holistic and ecological concept to promote the sustainable governance of water systems.

Conclusion and Policy Recommendations

The Venetian Lagoon is an essential counterpart to Venice, the world-famous built heritage. Without the lagoon, the ancient city would lose much of its charm and beauty. The experiences mentioned above are part of a long history of efforts to protect the lagoon's fragility and biodiversity. They also reveal that a top-down approach, which established a representative governing body for just one area of the lagoon, was vulnerable to political criticism due to its lack of shared ownership.

In contrast, the Wetland Contract represents a novel, voluntary form of governance. However, because its influence has not yet been able to interact effectively with public policy to guide decisions about the lagoon, it remains a recognized but non-institutional process. While this lack of institutionalization allows for greater flexibility of involvement, it also limits its influence on formal decision-making. Being run by an academic organization rather than a government agency makes the WCNLV a unique governance model. Its current application to new problems related to climate change places it in an experimental framework where ideas can be tested as possibilities that, if accepted, could be integrated into institutional practices.

To strengthen this promising model, public and political bodies must provide the Wetland Contract with greater support and reduce institutional distrust to upscale this governance model into a systemic management tool capable of addressing less represented issues of the lagoon ecosystem. It is vital to trust the participatory process that involves trans-scale and multi-actor dimensions, as this democratic approach fosters the socio-ecological relationships essential for shaping the contemporary territory. Finally, all stakeholders must exercise patience, recognizing that bottom-up governance processes inherently have long implementation times, requiring a sustained and committed investment to achieve lasting results.

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