

Multifaceted local action for the conservation of the transboundary Prespa lakes Ramsar sites in the Balkans

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Abstract. We provide a short overview of the bottom-up, non-governmental organisation (NGO)-driven conservation efforts that go a long way towards implementing the Ramsar Convention on the ground in the Prespa basin in the Balkans. Encompassing two lakes, the transboundary Prespa basin is covered by three Ramsar sites. The lakes host significant endemism and internationally important breeding and wintering waterbirds. For over 30 years, the Society for the Protection of Prespa (SPP), a locally based NGO representing an international constituency, has successfully used the obligations, goals and objectives laid out by the Ramsar Convention. The SPP has led broader alliances, implementing and coordinating conservation action, initially on the Greek side and later at basin level, through an integrated ecosystem approach, multiparticipatory decision-making processes and transboundary collaboration. It has achieved substantial benefits for waterbird populations, especially pelicans, engaged in community-based resource management approaches and drawn support, mainly from international donors, to achieve progress in the wise use of the wetland. The established decision-making mechanisms in Greek Prespa, the long-term monitoring data on the wetland ecosystem and the operation of transboundary collaboration networks are also expected to contribute towards addressing ongoing challenges, such as eutrophication and adaptation to climate change.

Keywords: community-based management, Ramsar Convention, socioecological landscapes.

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Introduction

The Ramsar Convention encapsulates current international law standards for the conservation and wise use of wetlands and their resources, and thus guides national action and international cooperation in this field. Since the 1970s, the Ramsar Convention has been adapting to the evolving knowledge and understanding on the ecology, natural attributes and functions of wetlands (Bowman 1995; Birnie and Boyle 2002) from a focus on waterfowl habitat to wetland ecosystems and their services (Dupuy and Vinuales 2018), as illustrated by the considerable evolution of the various policy and management guidelines adopted by the Parties to the Convention over the years, as well as in the criteria for the designation of wetlands of international importance (Ramsar sites). The designation of Ramsar sites in countries bound by the Convention is typically a top-down, state-driven process based on the scientific data available for any given site.

This paper provides a short overview of this process in the transboundary Prespa basin, located in south-eastern Europe, and the bottom-up, non-governmental organisation (NGO)-driven conservation efforts undertaken in the past three decades that have gone a long way towards implementing the Ramsar Convention on the ground. In particular, the paper emphasises the key role of the Society for the Protection of Prespa (SPP), an

NGO, as the centre of broader alliances in implementing conservation action, initially on the Greek side and later at basin level, through an integrated ecosystem approach, multiparticipatory decision-making processes and transboundary collaboration, and proposes lessons to be learnt that may be useful to wider audiences. From the multitude of activities undertaken, three lines of action are presented herein on conservation of pelican populations and their habitats (Article 4 of the Ramsar Convention; Ramsar Convention 1994), the wise use of wetlands (Article 3) and extending action over transboundary territories (Article 5).

The Prespa lakes: features and natural values

Prespa Lake and Lesser Prespa Lake (*Mikri Prespa* in Greek) are two adjacent highland lakes in the Western Balkans (Fig. 1) that are shared by three countries, Albania, Greece and North Macedonia. The lakes should be treated as one system because of their hydrological connection and proximity, but they possess different limnological features. They are situated in a karstic system with no natural surface outlet (Matzinger *et al.* 2006; Albrecht *et al.* 2008; Jovanovska *et al.* 2016).

They are surrounded by mountains reaching over 2600 m above sea level (ASL) and their combined catchment reaches 1395 km² in size. The mesotrophic Prespa Lake has a surface



Fig. 1. The Prespa basin coinciding with the transboundary Prespa Park, its location in the Balkans, its national protected areas and Ramsar sites.

area of 254 km², a volume of 3.6 km³ and a maximum water depth of 58 m (Matzinger *et al.* 2006; Albrecht *et al.* 2008). Its water inputs come from catchment and river run-off, groundwater and direct precipitation, as well as from Lesser Prespa Lake, through a controllable man-made sluice (Matzinger *et al.* 2006).

For the last half century, the 53-km² eutrophic Lesser Prespa Lake (shared by Greece and Albania) has stood a few metres higher than Prespa Lake (at ~854 m ASL), with a maximum depth of 8.4 m and a volume of 0.22 km³ (Hollis and Stevenson 1997; Albrecht *et al.* 2012).

The Prespa lakes and the adjacent Lake Ohrid are considered to be among the oldest in Europe (Wagner *et al.* 2010). Although Prespa's endemic forms (mainly aquatic and benthic invertebrates and fish) remain less known than those of Lake Ohrid, they certainly comprise over 40–50 taxa (Crivelli *et al.* 1997; Albrecht *et al.* 2012; Hristovski *et al.* 2015). Through karstic aquifers, the Prespa lakes supply approximately 20% of the total water input to the lower-lying Lake Ohrid (Matzinger *et al.* 2006).

The Prespa basin is a hotspot for plant diversity in South Europe. Its flora exceeds 2000 species, with 1816 recorded in the Greek part alone (Strid *et al.* 2020). Over 45 European Union (EU) habitat types (EU Habitats Directive 92/43/EEC), seven of which are priority habitats for conservation, are found in the area.

With regard to vertebrates, the Prespa lakes are among the 12 most important wetlands in Europe in terms of fish endemism (nine species) and as centres of threatened species (Smith and Darwall 2006). The area is home to over 160 species of breeding birds and important colonies of waterbirds, such as seven species of herons, glossy ibis, and pygmy cormorant, including the two species of European pelican. The colony of the globally Near Threatened Dalmatian pelican *Pelecanus crispus* is the largest in the world. Despite their high altitude, in winter the two lakes regularly host over 40 000 waterbirds (Catsadorakis *et al.* 2013).

The basin is inhabited by ~25 000 people, primarily occupied in agriculture (apple orchards, beans, cereals), stockbreeding (cattle, sheep, goats) and, much less so, in fishing and forestry, with secondary and tertiary sectors of lesser importance (Society for the Protection of Prespa *et al.* 2005).

Ramsar designations in the transboundary Prespa

Although one hydrological basin, during the last decades of the 20th century Prespa has not been protected in a coordinated way by its three littoral states. The designation of Ramsar sites in the area has been affected by various scientific, political, geopolitical, sociocultural, institutional, economic and legal factors in each country, such as the country's overall participation in the Ramsar regime, the effective use of relevant scientific knowledge and the pressure exercised by international donors and projects, as well as by national and international NGOs. Greece ratified the Ramsar Convention first, in 1974, and designated Lesser Prespa Lake as a wetland of international importance in August 1975, a few months before the Convention entered into force. In 1995, the North Macedonian part of Prespa Lake was designated as a wetland of international importance. This was the first and, for more than a decade, the only Ramsar site of that country, which designated the nearby Lake Ohrid as its third site at the beginning of 2021. Almost another two more decades passed before the major portion of the Albanian part of the Prespa catchment, the latter coinciding with the Prespa National Park–Albania, was declared a Ramsar site in 2013.

This difference in pace is due to the fact that each state became a party to the Ramsar Convention and organised the designation of its Ramsar sites according to its own policy priorities and the aforementioned influencing factors, without any evidence that the transboundary nature of some of its wetlands played a role in the respective decisions. The history of Ramsar designations in Prespa, as well as the fact that the designated sites are not fully contiguous, because the Greek part of Great Prespa Lake remains without a Ramsar designation, also denotes the lack of transboundary coordination and minimal contact between the three countries until 2000. Hence, the most recent designation on the Albanian side is the more mature of the three, because it follows the evolution of the Convention itself; it fulfils eight of the nine designation criteria, incorporates a large part of the catchment and explicitly pursues integrated ecosystem management and transboundary cooperation, as evidenced by the Ramsar Information Sheet (2013) accompanying the designation. This holistic approach is also a result of transboundary cooperation and increased scientific research outcomes since 2000, and abides by the evolving objectives and guidelines of the Ramsar Convention, ensuring a basin-wide

approach (Ramsar Convention Secretariat 2010a, 2010b, 2010c, 2019; Ramsar Convention 2012).

Efforts to update the Ramsar Information Sheet for Lake Mikri Prespa (Ramsar Information Sheet 1998) and to include Prespa Lake and the entire catchment are still failing at the Greek ministry level. From the point of view of the substantive regulation, management and conservation of the sites, it is apparent that the Ramsar designation in the littoral countries, as elsewhere in the world, did not directly lead to a special protected area regime and these sites were commonly included in the national systems of protected areas with appropriate national designations. Moreover, it is true that national or regional laws of a more or less binding character for all littoral states, for example EU law, have been more influential than the designation as such in complex situations of transboundary wetlands where multiple legal orders are applicable (Verschuuren 2008).

Be that as it may, in regions like south-eastern Europe, legal protection regimes alone cannot guarantee that wetland conservation is achieved. The Prespa littoral states are characterised by a low priority for biodiversity conservation and nature management and a weak environmental administration, as evidenced by the political programs of their governments over recent decades and several independent assessments (e.g. Sida's Helpdesk for Environment and Climate Change 2012). Therefore, conservation actors are needed to make a difference on the ground (Mauerhofer *et al.* 2015). In the Prespa basin, such a catalysing actor has been the SPP.

Society for the Protection of Prespa

In Greek Prespa, a large number of environmental NGOs were voicing conflicting opinions about conservation action during the late 1980s, creating general confusion about environmental approaches among the various stakeholders. In 1990, the cofounder of the Ramsar Convention and prominent conservationist Luc Hoffmann and the architect and conservationist Thymio Papayannis acted through WWF Greece to create a locally based NGO whose aim was to coordinate conservation efforts in the area. The SPP was formed as an umbrella NGO, bringing together seven national and three international environmental NGOs as member organisations, to act in a synchronised and consistent way.

The vision of the SPP is that the environment, wildlife and landscape of Prespa, together with its cultural identity and heritage, are sustained for the benefit of all. The SPP capitalises on the expertise and experience of its members, and all those concerned with Prespa, in one conservation organisation that operates at local, transboundary and international levels. It aims to shift the perception that environmental objectives are external factors that influence people's lives to one of being a set of values that guide decision making and shape the future of the area.

At the SPP, we initially worked on the conservation of waterbirds, emphasising research and increasing knowledge on the ecosystem functions associated with them. Over its 30-year history, through numerous restoration and development projects, the SPP has contributed to supporting the sustainability of local livelihoods and community empowerment. Accordingly, we have worked to establish the operation of

multiparticipatory, typical and atypical forms of governance in order to ensure the sustainability of the SPP's conservation activities.

Pelican conservation: from local action to national and global challenges

Because the area was long secluded as a sensitive border area, the ornithological treasures of Lesser Prespa Lake were first discovered in only 1967 (Brosselin and Molinier 1968). At that time the area hosted over 1% of the then globally vulnerable Dalmatian pelican, a species of insufficiently known status at the time. In 1977, the French Tour du Valat (TdV) Biological Station instigated a long-term project, led by A. J. Crivelli for over 30 years, to explore the ecology and ensure the conservation of the Dalmatian pelican. A network of local partners in many countries was gradually built in the early 1980s, with more intensive work carried out in Prespa, and later in other wetlands of Greece.

Following the establishment of the SPP, we collaborated closely with TdV, one of the SPP's founding members, by monitoring programs on waterbirds, hydrology, wetland vegetation, fish and fisheries and the implementation of local measures under an integrated ecosystem approach rationale (Crivelli 1994).

The limiting factors for Dalmatian pelican populations were identified. First, disturbance by fishermen, and wildlife photographers, would result in nest abandonment and reduced breeding success. Second, nesting substrates (i.e. semifloating 'islands' formed of conglomerates of reed rhizomes) would become accessible to land predators during times of low water levels, limiting the space available, and consequently the number of nesting pairs. Third, the ideal feeding habitats for pelicans, as for all large wading birds of the area (i.e. shallow waters free of dense aquatic vegetation), were being encroached upon by the expanding reed beds because of the cessation of traditional management. Water level and helophyte management were playing a crucial role for two of the three limiting factors.

TdV and the SPP worked together to mitigate the impact of these factors by placing artificial nesting rafts in years of extreme drought or flood (1987–91) and through targeted public awareness campaigns. With patrolling, education programs, awareness raising and successful negotiations with fishermen, disturbance was gradually eliminated. Furthermore, this work allowed pelicans to nest in an area outside their limited traditional nesting grounds and populations increased, reaching 200 pairs in 1990 and stabilising at 1300–1500 pairs after 2013 (Fig. 2). These conservation efforts were largely to be credited for the increase in breeding pairs (Deinet *et al.* 2013). Today, Lesser Prespa Lake continues to hold over 15% of the global population of the species.

The increase in the Prespa population of Dalmatian pelicans profoundly affected the growth not only of the species population in Greece, but also of the Mediterranean–Black Sea flyway metapopulation (Catsadorakis 2016). In Greece, while the Prespa breeding pelican population continued to increase, it functioned as a 'source' population, which crucially contributed to the establishment of new colonies; as a result, the overall

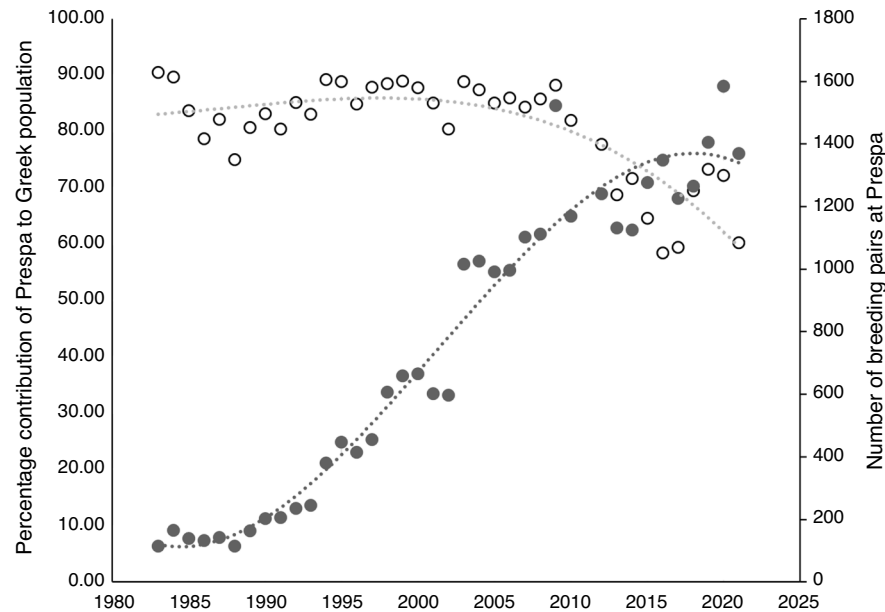


Fig. 2. Increasing breeding population trends for the Dalmatian pelican *Pelecanus crispus* at Prespa from 1983 to 2021 (filled circles) and the percentage contribution of the Prespa population to the overall Dalmatian pelican breeding population of Greece (open circles).

contribution of the Prespa population of Dalmatian pelicans to that in Greece dropped from 80–90% up until 2010 to 60–70%, when the number of colonies in the country reached five (in 2011) and then six (in 2016) (Fig. 2). Overall, in the 21st century, 12 new Dalmatian pelican colonies were established in three countries of south-eastern Europe and conservation projects effectively supported the smaller and dwindling colonies. As a result, in 2017, the Dalmatian pelican was downgraded in the International Union for Conservation of Nature (IUCN) Red List from ‘Vulnerable’ to ‘Near Threatened’ and in the European Red List from ‘Vulnerable’ to ‘Least Concern’ (BirdLife International 2021).

However, Dalmatian pelicans depend on the successful conservation of an extended network of wetlands to cover their foraging and reproduction needs, which rarely coincide spatially. Therefore, since 2010, the SPP has coordinated the Pelican Specialist Group (Old World) of the IUCN Species Survival Commission, and has expanded pelican conservation networking, enabling the exchange of knowledge between members, exporting the acquired expertise and formulating conservation guidelines for the species from the Balkans to Mongolia. The species global action plan, jointly produced by the SPP and the Hellenic Ornithological Society, provides a robust framework for global action (Catsadorakis and Portolou 2018).

The restoration of the Dalmatian pelican population in south-eastern Europe constitutes an example of the application of Article 4 of the Ramsar Convention (1994). However, these populations remain management dependent (Catsadorakis and Portolou 2018; BirdLife International 2021) and pelican conservation objectives should be incorporated into management planning for wetlands across their range under an integrated ecosystem approach.

Wetland conservation management for biodiversity and people

Since the establishment of the SPP, we have worked on evaluating, on a scientific basis, the effects of water level fluctuations on waterbird colonies and wetland habitats. The construction of a sluice at the outflow of Lesser Prespa Lake into Great Prespa Lake in the 1980s allowed farmers to apply ad hoc water level management in order to accommodate irrigation needs and avoid the flooding of agricultural land adjacent to the littoral zone. Since 1991, the SPP has monitored water levels, annually assessed the effects of springtime water levels on both wetland habitats and primary sector activities and noted important land use changes in littoral land. It has also introduced quantifiable conservation objectives for water management by defining scenarios for the optimum water level for Lesser Prespa Lake (Giannakis 2001). The acknowledgment of the SPP’s contribution by farmers and the Municipality of Prespa attributed an important role to the SPP as a stakeholder, and allowed the reconstruction of the sluice in 2005 within the LIFE2002NAT/GR/8494 project, and thereafter the science-based management of the water level under the auspices of the Management Body for the Prespa National Park (MBPNP).

Multifaceted research and monitoring on the interactions between abiotic factors and wildlife, vegetation dynamics, local socioeconomic conditions and traditional ecological knowledge has provided increased insights into the ecosystem functions of Lesser Prespa Lake and enabled us to tackle the prevalent threat faced by the wetland’s large waterbirds, namely the decline in the extent of vegetation-free, periodically flooded meadows (wet meadows), which act as main foraging grounds for waterbirds and spawning grounds for fish.

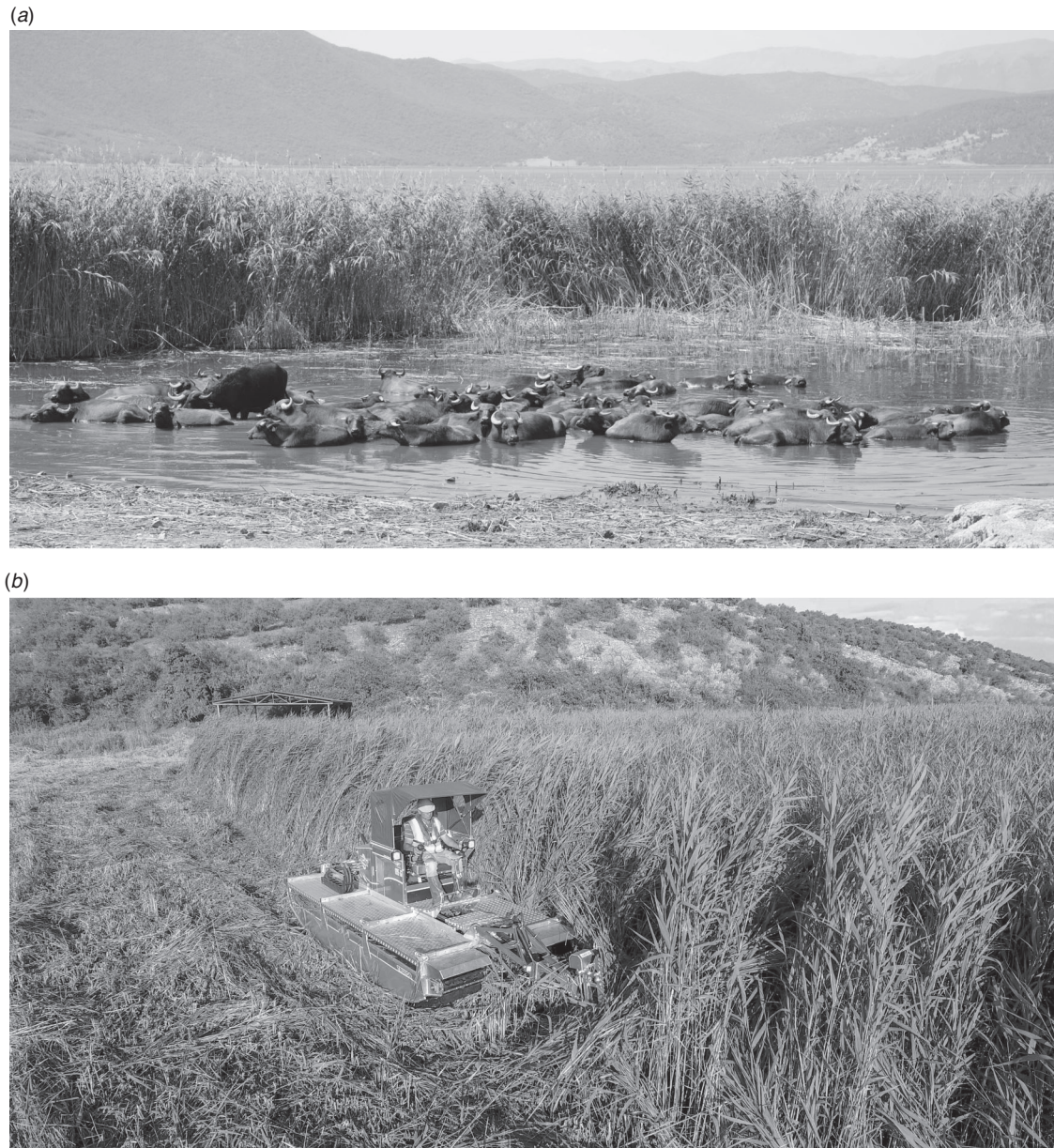


Fig. 3. (a) Grazing by a herd of water buffaloes *Bubalus bubalis* was used in combination with conventional mowers between 1998 and 2008 to control expansion of the common reed *Phragmites australis* in the Greek part of Lesser Prespa Lake. (Photograph courtesy of L. Nikolaou, SPP Archive.) (b) Later, mowing in deeper parts was carried out by an amphibian machine. (Photograph courtesy of F. Marquez, SPP Archive).

Various cultural and socioeconomic changes had led to the gradual abandonment of traditional human activities, such as reed cutting and grazing around the lakeshore, which resulted in dense reed beds closing up the areas with open shallow waters (Catsadorakis and Malakou 1997). In order to tackle the resultant loss of biodiversity, a new management scheme needed to be organised, which would operate within the framework of a multilevel and multifaceted approach that incorporated adaptability and flexibility. Hence, the SPP framed its conservation actions around wetland vegetation management and water management while also promoting

participatory processes in both decision making and the implementation of management.

Following experimentation with vegetation management techniques, taking environmental and socioeconomic considerations, as well as traditional ecological knowledge, into account, the first wet meadow restoration plan was produced in 2001 (Kazoglou *et al.* 2001). This enabled us to apply large-scale management by reinstating traditional techniques (i.e. buffalo grazing and reed cutting) between 2002 and 2007, within the EU Project LIFE2002 NAT/GR/8494, the outcome of which was the restoration of 100 ha of wet meadows (Fig. 3). The

Table 1. Basic outline of helophyte management outputs in Lesser Prespa Lake for the period 2015–17 compared with 2021 to give a measure of the scale of the gradual progress

	Mean for 2015–17	2021
Littoral areas under management (ha)		
Mowing (maximum extent of interventions)	~38	115
Extent of wet meadows habitats	54	122
Plant biomass extracted and used by farmers and stockbreeders (tonnes, Mg)	~42	188
Participation of local stockbreeders		
Number of stockbreeders involved in mowing littoral land and biomass use	10	24
Number of herds grazing on a regular basis along the littoral zone	3	5
Number of animals (cattle) grazing on a regular basis along the littoral zone	170	360

active participation and support of the local municipality and the MBPNP was crucial to the success of this endeavour. Following this effective restoration phase, the SPP produced a wetland management plan (Malakou *et al.* 2007) that was incorporated in the Prespa Park Management Plan (Giannakis *et al.* 2010), and worked intensively to create incentives for local stockbreeders to apply vegetation management around Lesser Prespa Lake, thus employing an inclusive wetland management planning process that combined conservation objectives with management that was sustainable in the long-term.

Gradually, wetland vegetation management objectives expanded to include the mitigation of reed bed fires and climate change effects while also addressing a long-standing conflict on land use around the lake, namely the ramifications of agricultural fields being inundated during high spring water levels. Since 2018, the area of the wetland effectively under management has increased to ~360 ha (Table 1), with restoration activities expanding from the wet meadows zone to the entire reed bed and other habitats (Fig. 3). This enlargement has called for a more active participation of stakeholders in management, and we therefore proceeded with investigating the potential use of the reed biomass extracted from the wetland as heating material, livestock fodder and soil conditioner in local bean fields in order to provide further options and incentives for local participation and collaboration, within the EU LIFE Project LIFE15 NAT/GR/000936.

Upon the introduction of conservation objectives into the communal water and wetland vegetation management schemes, it became apparent that decision making should encompass all related stakeholders. To this end, the SPP instigated the establishment of the Wetland Management Committee (WMC), in which local, regional and national authorities and local stakeholders (stockbreeders, farmers, fishers) participate, negotiate and share responsibilities, ensuring a consensus on management goals for wetland conservation. The WMC operates under the auspices of the MBPNP but is scientifically and technically supported by the SPP. For 13 years the WMC has been an advisory body to the board of the MBPNP, addressing issues of water level management and its effect on biodiversity and local primary sector activities, wetland vegetation management, biodiversity conservation and fishery regulations, among others.

Currently, stockbreeders carry out the greater part of mowing, then use the harvested biomass and grazing areas created, with the SPP complementing mowing in areas where access is

difficult for farm equipment and ensuring that conservation objectives are met.

Moreover, in 2018, the SPP prompted the initiation of another informal scheme for transboundary cooperation, the Transboundary Wetland Management Technical Group, consisting of representatives from protected areas at basin level, as well as other environmental actors. The aim of this group is to facilitate dialogue and the exchange of knowledge between stakeholders on wetland management issues, and hence to promote a holistic approach to the planning of wetland management at basin level.

Transboundary work: a step-by-step approach to safeguarding biodiversity across borders

By the end of the 1990s, at the SPP we realised that little could be achieved unless the Prespa basin was subject to coordinated management across the borders in all three littoral countries (cf. Ramsar Convention Secretariat 2010c) and started working towards this direction. The first element needed, in view of the tense geopolitical backdrop in the region, was a high-level political endorsement of transboundary collaboration that would enable local stakeholders to establish contacts with their counterparts without state opposition. In late 1999, a politically opportune moment arose after the SPP received the Ramsar Wetland Conservation Award for NGOs. The SPP and WWF Greece made a bold proposal to the Greek government: to establish the Prespa Park, a transboundary protected area, the first of its kind in south-eastern Europe. The proposal was endorsed by all three governments and, as a result, on 2 February 2000, World Wetlands Day, a joint declaration for the environmental protection and sustainable development of the region was issued under the auspices of the Ramsar Convention by the Prime Ministers of Albania, Greece and North Macedonia.

This was followed by a decade of institution building, cross-border dialogue and joint activities. Institutional work started with the establishment of an informal multistakeholder Prespa Park Co-ordination Committee (PPCC) on the initiative of international actors, namely the Ramsar Convention and the MedWet Initiative, with the decisive support of NGOs in all littoral states. The PPCC was an interim body composed of representatives of the national environmental authorities, the local municipalities and the environmental NGOs active in the region, including the SPP, as well as a permanent observer from

Table 2. Landmark Society for the Protection of Prespa's projects and lobbying achievements for transboundary conservation and collaboration in the Prespa basin

The lobbying work in particular, but often the projects as well, are implemented together with several partners and allies, and therefore their results are common achievements. EU, European Union

Year	Projects and lobbying achievements
2000	Declaration on the establishment of the Prespa Park issued by the prime ministers of Albania, Greece and North Macedonia
2001–02	Preparation and adoption of a Strategic Action Plan for the Sustainable Development of the Prespa Park
2001–09	Operation of the Prespa Park Coordination Committee with the support of a Secretariat comprising NGO staff and led by the SPP
2005–06	Study on the interaction between Lake Lesser Prespa and River Devolli (Albania) and cessation of the damaging use of the river diversion
2005–09	Research and preparation of a transboundary Action Plan for the Prespa Trout (Greece–North Macedonia)
2005–11	Capacity building of NGOs: establishment and operation of the Information Centre in Zgradec, Albania
2005–16	Environmental education activities in all three littoral countries
2007–12	Development of a Transboundary Environmental Monitoring System for the Prespa Park area
2009–11	Status survey and preparation of a conservation action plan for the bats of transboundary Prespa
2010	Signing of agreement for the protection and sustainable development of the Prespa Park area by the Ministers of Environment of the three littoral countries and the EU Commissioner for Environment
2013	Establishment and operation of the PrespaNet, a permanent NGO network of environmental organisations for the Prespa Park area
2015	Preparation of a Transboundary Strategic Framework for Conservation in Prespa by the PrespaNet
2017	Ratification of the 2010 Prespa Park Agreement by the Greek Parliament
2018–21	Strengthening NGO-led Conservation in the Transboundary Prespa Basin (habitat mapping, conservation of plants and large mammals by the PrespaNet)
2019	The 2010 Prespa Park Agreement comes into force
2021	Beginning of operation of the joint bodies foreseen under the 2010 Prespa Park Agreement with the first meeting of the high-level segment (ministers of environment and EU representative)

Ramsar and MedWet. This informal scheme worked for 9 years, with collaborating NGOs from the three countries, led by the SPP, acting as its Secretariat. During those first years, the MedWet Initiative acted as an external impartial actor, proposing internal arrangements and compromise solutions to difficult issues, constantly reminding the parties of their international obligations to protect and wisely use shared resources and promoting and publicising the Prespa Park initiative to wider audiences and fora.

This scheme offered a platform that legitimised and organised trilateral dialogue and enabled the cultivation of trust, exchange of information and some convergence of views on conservation, management and sustainable development across the borders, which were totally absent at the outset. Especially important was the increased attention to the area on the part of national governments and international agencies and donors, and an elevated area profile brought about by the informal cross-border Prespa Park process.

Joint activities and projects were other significant outcomes enabled by this process (Table 2). These included the preparation and endorsement of the first trilateral Strategic Action Plan for the Sustainable Development of the Prespa Park (Society for the Protection of Prespa *et al.* 2005), the preparation and implementation of a large regional project for the integrated protection and management of the area cofunded by the Global Environment Facility (and several other joint projects on issues of common concern, funded by various donors, including strategic funds provided by the German development agency GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH). For the first time in the area, all these activities were discussed, planned and coordinated to a large degree within the PPCC, which was served and its operation enabled by the NGO Secretariat.

In the middle of the decade 2000–2010, the collaborating stakeholders endorsed the SPP proposal to ask the governments for a binding international agreement that would signal the entry of the Prespa Park scheme into a phase of maturation. In 2010, the three ministers of the environment and the European Commission (EC) Commissioner for the Environment did sign the International Prespa Park Agreement. However, because of long-lasting political problems between the littoral states, as well as the low priority of biodiversity conservation in littoral state policies, there were delays in the implementation of the agreement. The goal of formal institutions led by the littoral states operating under a legally binding agreement has only started to materialise 11 years later, with the first high-level segment meeting of the ministers of environment of the three countries and the EC representative held in June 2021.

Local municipalities and environmental NGOs were the most active in the decade of institutional stagnation from 2010 to 2020, keeping alive regular contacts and collaboration. In 2013, three collaborating NGOs that were active in Prespa decided to establish a permanent network: PrespaNet was created by the Macedonian Ecological Society (North Macedonia), the Protection and Preservation of the Natural Environment of Albania (Albania) and the SPP. The aim of PrespaNet was to enhance cooperation to influence environmental policies and compensate for the absence of a central state collaboration mechanism in the basin. PrespaNet has elaborated a Transboundary Strategic Framework for Conservation in Prespa (PrespaNet NGO Network 2018) to guide its action and implements joint projects and activities in pursuit of the objectives set therein.

Until 2018, our work at the SPP was supported by the Swiss MAVA Foundation; since then it, along with the work of

PrespaNet and of protected area authorities in Albania and North Macedonia, has been supported by the Prespa Ohrid Nature Trust (PONT), the first conservation trust fund in the Balkans. The increasing environmental needs of the Prespa Park area and lack of sufficient state funding to meet them in the littoral states, as well as the encouraging conservation outcomes of the efforts of local and international actors, led the two major environmental donors active in the region, namely the German bank Kreditanstalt Für Wiederaufbau (KfW) and the MAVA Foundation, to establish PONT in 2015 to 'provide long-term financing for the conservation and sustainable management of biological diversity, natural processes and ecosystem services in Prespa and its wider area for the benefit of nature and people in the region' (WWF Greece 2015).

Conclusions, lessons learnt for transboundary conservation and the management of wetlands and future challenges

In the Prespa basin, over the course of 30 years, the SPP has used a bottom-up approach to implement the obligations, goals and objectives laid out by the Ramsar Convention, and subsequent resolutions and strategic plans for effective wetland conservation at the local and the transboundary levels, purposefully engaging community-based resource management approaches, building appropriate alliances and drawing extensive support, especially from the international community. There are four main conclusions stemming from the Prespa case study, as seen through the involvement and role of the SPP in the process for the substantial conservation of the area's precious wetland ecosystems. First, the official top-down designation of Ramsar sites in Prespa, as it evolved over five decades, signified an increased protection status for the area in all the littoral states, stimulated protection in the form of national protected areas and, at a transboundary level, created an umbrella that enabled the formation of links and cooperation between the protected areas in the three countries, as well as the international conservation community. Second, to achieve results in the absence of central state commitment and leadership, there is a need for a 'catalysing agent'. This role in the case of Prespa Park has been played by the SPP and its partner NGOs, and by international donors, although the role of Ramsar and MedWet was also crucial in the initial phase. Third, the Prespa actors have moved well ahead in the continuum of progress by advancing dialogue, building trust and consensus, reinforcing synergies and attaining a solid scientific understanding of basin-wide ecosystems, which is essential for the effective planning of actions that will address ecosystem and human needs across a shared basin. Finally, the involvement and dedication of international donor organisations played a vital role in ensuring long-term financing for the conservation and sustainable management of Prespa, and the initiation and fostering of cooperation across the borders.

There are many lessons that can be drawn from the Prespa case study that may prove useful for other initiatives on Ramsar designation and the management of transboundary wetlands.

- Most of the main conservation challenges in shared wetlands are of a transboundary nature, especially those relating to water, wetland habitats, aquatic organisms, waterbirds, environmental monitoring and the promotion of sustainable

livelihoods; these should be taken into account before any designation and management initiative.

- Sustainable results cannot be achieved unless transboundary basins are subject to systematic long-term transboundary cooperation and coordinated management across the borders.
- In many countries the Ramsar designation brings about a new symbolic status and increased visibility for the site (cf. Bowman 1995), and thus facilitates and expedites the legal protection and proper management of the wetland according to national legal systems.
- In regions with a difficult geopolitical backdrop, high-level political endorsement of transboundary collaboration, which enables local stakeholders to establish contacts with their counterparts without state opposition, is vital.
- Cross-border wetland cooperation is in the long-term interest of littoral countries, but may clash with short-term political cycles; it takes time for the mutual benefits to be appreciated by policy makers and, even when this occurs, the momentum can be critical for attaining high-level political commitment and establishing formal cooperation arrangements.
- In the absence of official interstate collaboration, informal transboundary institutional collaboration offers a platform that legitimises and organises transboundary dialogue and enables the cultivation of mutual understanding and trust, consensus building and the convergence of views; thus, the need for systematic long-term transboundary cooperation is gradually entrenched in the minds of all involved.
- Local municipalities and environmental NGOs, although low in the institutional hierarchy, are flexible and can make a real difference during the initial stages of efforts. Although formalised, legally binding cooperation is often the ideal for transboundary environmental management, it is also possible to move ahead by supporting cooperation between technical staff, local resource users, local governments and NGOs.
- To achieve conservation results, both the 'top-down' and 'bottom-up' approaches are needed, with flexibility and awareness of what can work best in each instance and setting.
- International support (political and financial) is important for the success of transboundary cooperation; the need for donor coordination is critical, as is the need to draw on and use lessons from the experiences of all donors, new or already active in the region.
- National protected area designations are operationally more effective but, in regions like south-eastern Europe, legal protection alone cannot guarantee that conservation is achieved. Conservation actors are needed to produce results on the ground, because the complex issues of transboundary wetland conservation and wise use require the flexibility and participation of many diverse stakeholders.
- Action is more effective if it is deployed simultaneously at local, transboundary and international levels.
- Successful conservation efforts should be based on good science and reliable data at both the national and transboundary levels. Common scientific knowledge is the basis for decision making and for any agreement in transboundary basins. In fact, a strong science base is necessary to overcome national divisions and preconceptions, especially in 'sensitive' areas such as water and wetlands.

- In regions characterised by a low priority for environmental policies and weak environmental administration, implementing Article 5 of the Ramsar Convention (1994) is often difficult, but the concerted action of the international community can overcome barriers (Christopoulou and Roumeliotou 2006).
- International funding sources may motivate cross-border water and wetland cooperation, particularly in basins where the states are not proactive and political will is weak.

There are also several lessons learnt from the Prespa case that have a more general application to most conservation initiatives.

- Multiparticipatory, typical or atypical forms of governance facilitate dialogue and the exchange of knowledge between stakeholders, and hence promote a holistic approach to the planning of conservation management, ensuring the sustainability of conservation outcomes.
- Every conservation initiative should be based on, and be deployed along, an integrated ecosystem approach rationale.
- The correct identification and at-scale assessment of threats is of utmost importance. Often, threats of less importance muddle conservation efforts.
- Conservation efforts should be multilevel, and in different sectors and lines of action (guarding and patrolling, education and public awareness, aversion of threats, lobbying, institutional intervention).
- Local action alone is often not enough, and the spatial scale of conservation should be expanded to networks of sites and habitats important for the targeted species.
- Prior experimentation with management techniques may prove invaluable, but taking into account environmental and socioeconomic conditions, together with local traditional ecological knowledge, is crucial.
- The management planning process must match conservation objectives with management that is sustainable in the long-term.
- For conservation at the national or/and transboundary level, as well as for transboundary cooperation, trust and consensus building require patience and perseverance; conservation results do not happen overnight! This is a critical lesson that is often forgotten.

The main challenge for the conservation of the natural heritage of the Prespa basin in the following decades will be the building of mature transboundary governance institutions that will actually accommodate all the diverse stakeholders and interests and put them into synergistic operation for the benefit of the transboundary socioecological production landscape in the face of ongoing eutrophication and climate change that is already transforming the area before our eyes.

To achieve one indivisible transboundary Ramsar designation for the entire catchment will perhaps be a positive step to further enhance international co-operation at all levels and better apply the strategic and operational goals of the Ramsar Strategic Plan 2016–24 (Ramsar Convention Secretariat 2016).

Conflicts of interest

The authors declare that they have no conflicts of interest.

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