Review of the international policy framework for conserving migratory shorebirds in the East Asian-Australasian Flyway

East Asian-Australasian Flyway Partnership Secretariat

Internship project report

Eduardo Gallo-Cajiao

"We are further along [conserving shorebirds in the flyway] than we were 10 years ago, but we have less habitat now than we had 10 years ago." Anonymous.

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Author's affiliation

Eduardo Gallo-Cajiao
Policy intern
East Asian-Australasian Flyway Partnership Secretariat
3F Bon-dong G-Tower, 175 Art center-daero (24-4 Songdo-dong)
Yeonsu-gu, Incheon 406-840, Republic of Korea
eduardo@eaaflyway.net

Author's current address

Eduardo Gallo-Cajiao
PhD student
School of Biological Sciences
The University of Queensland
St Lucia, Australia
e.gallocajiao@uq.edu.au

Report available from

East Asian-Australasian Flyway Partnership Secretariat
3F Bon-dong G-Tower, 175 Art center-daero (24-4 Songdo-dong)
Yeonsu-gu, Incheon, 406-840, Republic of Korea
secretariat@eaaflyway.net

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Acronyms

AWSG	Australasian Wader Studies Group
BMBA	Bilateral Migratory Bird Agreement
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CMS	Convention on Migratory Species
CoP	Conference of the Parties
EAAF	East Asian-Australasian Flyway
EAAFP	East Asian-Australasian Flyway Partnership
EEZ	Exclusive Economic Zone
EPBC Act	Environment Protection and Biodiversity Conservation Act
IGO	Inter-governmental Organisation
NGO	Non-governmental Organisation

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Executive summary

International governance is important for migratory species conservation. Waterbirds comprise a diverse group of birds, many of which migrate long distances. Amongst them, shorebirds conduct the longest migrations, many of them completing their life cycle across the Asia-Pacific region. This region is known as the East Asian-Australasian Flyway (EAAF). Thus, conservation of these species is only possible through international coordination and cooperation. Several threats operate on migratory shorebirds in the EAAF and, as a consequence, some of them have been declining. The loss of biodiversity, in general, and the decline of waterbirds, more specifically, have catalysed the development of an international policy framework for the conservation of migratory shorebirds in the EAAF. This policy framework, however, does not necessarily ensure shorebird population declines will be halted. Therefore, the aim of this project was to characterise and analyse the international policy framework for the conservation of migratory shorebirds within the East Asian-Australasian Flyway. More specifically, I report on the implementation of those international binding policy instruments through domestic policy in three countries, Australia, China, and the Republic of Korea. This report summarises expert recommendations on how to advance the conservation agenda of migratory shorebirds in the EAAF. This research was conducted through document analysis and stakeholder interviews. My results indicate that an international conservation policy framework for conserving migratory shorebirds has been emerging within this flyway since the 1970s. This framework comprises binding and non-binding instruments, spanning bilateral and multilateral approaches. Eleven binding bilateral agreements enacted for the conservation of migratory bird species have been signed by seven countries. There are also three binding multilateral agreements (i.e., Ramsar Convention on wetlands, Convention on Migratory Species, and Convention on Biological Diversity) relevant to migratory shorebird conservation in the EAAF. The East Asian-Australasian Flyway Partnership is a non-binding multilateral and multisectoral agreement to primarily facilitate waterbird conservation actions. Nevertheless, despite the emergence of such an international policy framework migratory shorebird populations have continued to decline. This may seem conflicting when considering its provisions and spatial configuration. Indeed, in combination all relevant international policy instruments in the flyway have prescriptions to address key threats to shorebirds across most of the region. Possible explanations for this apparent incongruence include: i) lag effects of conservation actions, ii) the slow development of required institutional arrangements, iii) gaps in domestic policy for implementation of international commitments, iv) conflict between policies for the environment and other realms, and v) flaws in domestic policy implementation on the ground. In spite of the existence of challenges, the current international policy framework has been instrumental in advancing migratory shorebird conservation in the EAAF, as it has enabled: i) the development of a social construct for collective action through international governance arrangements, ii) the enactment of domestic policies to implement international obligations, iii) the prescription and execution of specific actions on the ground, iv) the expansion and application of scientific knowledge, v) resource mobilisation, vi) capacity building, vii) information sharing, and viii) coordination between national governments and institutions. These results should be considered as preliminary, as further research is warranted. The future of migratory shorebirds in the EAAF depends on continued improvement in this policy framework.

1. Introduction

International governance is at the core of migratory species conservation (Boardman 2006). Vertebrate migrations are large scale ecological processes that have been largely disrupted by anthropogenic threats around the world (Wilcove and Wilkelski 2008). In addition to the vast areas required to complete their life cycle, whole populations of migratory species often rely disproportionately on relatively small geographic areas as their migratory pathways are funneled (Runge et al. 2014). Furthermore, large-scale migrations usually entail the use of habitats spanning multiple countries (Newton 2005), such that threats associated with different environmental, socio-economic and political contexts occur along the migratory range of individual organisms. Consequently, population declines of migratory species have been globally widespread, leading in some cases to severe population declines and species extinctions (Harris et al. 2009). In response to this crisis, several international policies have emerged around the world (Boardman 2006).

Waterbirds comprise a diverse group of birds, many of which migrate long distances. Amongst them, shorebirds conduct the longest migrations, many of them completing their life cycle across the Asia-Pacific region (van de Kam 2004, Geering et al. 2007). This process involves the migration of millions of birds from northern hemisphere breeding grounds to non-breeding grounds in the southern hemisphere. Many species breed in the tundra and taiga, migrating through East Asia, where they stop to rest and refuel (Geering et al. 2007). Non-breeding areas encompass coastal and inland wetlands across Southeast Asia, Australia, and New Zealand. This entire region has become to be known as the East Asian-Australasian Flyway (EAAF), spanning 22 range states (Bamford et al. 2008).

Several anthropogenic stressors operate on migratory shorebirds in the EAAF, most of them unevenly across the region affecting them differently. For instance, hunting of shorebirds primarily occurs in Southeast Asia and the breeding grounds (Gallo-Cajiao and Fuller 2015). Furthermore, habitat loss is a threat to these birds in many countries, particularly along their migratory path and their non-breeding grounds, including Australia (Harding et al. 2007, Murray et al. 2014). However, it is perhaps in the Yellow Sea where this stressor has its maximum detrimental effect. As the migratory path of many species of shorebirds funnelled through this region, where they stop to rest and refuel, destruction of intertidal mudflats in that particular region can have a disproportionate effect on shorebird populations when compared to habitat loss elsewhere (Rogers et al. 2010, Runge et al. 2014). Additional threats to these birds include fisheries by-catch, food resource depletion, water extraction, pollution, disturbance, and climate change (Harding et al. 2007). Nonetheless, the relative importance of each of such threats remains unclear.

As a consequence of multiple anthropogenic stressors, migratory shorebirds have been declining in the EAAF. The appraisal of population trends of these birds is challenging considering the large scale at which they move. Nonetheless, the decrease in abundance of these birds at several sites may allow to infer a similar trend flyway-wide (Creed and Bailey 1998, Wilson 2001, Reid and Park 2003, Olsen and Weston 2004, Gosbell and Clemens 2006, Rohweder 2007, Close 2008, Wainwright and Christie 2008, Rogers et al. 2009, Wilson et al. 2011, Cooper et al. 2012, Dawes 2012, Milton and Harding 2012, Minton et al. 2012, Szabo et al. 2012). Moreover, four migratory shorebird species have been listed as threatened and three as near threatened by the IUCN in this flyway (BirdLife International 2012).

The loss of biodiversity, in general, and the decline of waterbirds, more specifically, have catalysed the development of an international policy framework for the conservation of migratory shorebirds in the EAAF. Whilst some international policy instruments have responded to the biodiversity crisis

more broadly, such as the Convention on Biological Diversity (Sands and Peel 2012), others have been responses to the specific decline of migratory waterbirds, such as the Ramsar convention (Matthews 1993) and several bilateral migratory bird agreements (Takahashi 2012). Policies are sets of rules to influence behaviour and attitudes of individuals and institutions in particular issue areas (McGrath 2010). In this context, various international policy instruments underpinning conservation actions to halt population declines of migratory shorebirds have emerged with jurisdiction in the EAAF. This framework includes bilateral and multilateral binding agreements, as well as non-binding arrangements (Murray and Fuller 2012, Takahashi 2012).

The existence of such an international policy framework for shorebird conservation, however, does not necessarily ensure species population declines will be halted. The performance of international policy instruments is influenced by mechanisms for their implementation and stakeholders in different spheres as well as at different levels. These features make international regimes intrinsically complex and fuzzy (Skjærseth et al. 2006). Hence, challenges and opportunities to advance regime effectiveness may not be evident without careful analysis. Understanding the current international policy framework for the conservation of migratory shorebirds in the East Asian-Australasian Flyway is fundamental to potentially improve policy effectiveness.

2. Aims

This project characterises and analyses the international policy framework for the conservation of migratory shorebirds within the East Asian-Australasian Flyway. This involves the identification of all individual relevant policy instruments, their provisions, geographical scope, as well as their procedures. More specifically, I report on the implementation of those international binding policy instruments through domestic policy in three countries, Australia, China, and the Republic of Korea. This report summarises expert recommendations on how to advance the conservation agenda of migratory shorebirds in the East Asian-Australasian Flyway. Hence, I do not make a scholarly contribution to the fields of global environmental governance, nor appraise the effectiveness of the international policy framework. I rather simply report on the views of participants, drawn from a range of governmental and non-governmental organisations across the flyway. Nevertheless, this project is one of the first attempts to characterise and analyse the international policy framework for the conservation of migratory shorebirds in the East Asian-Australasian Flyway.

3. Methods

3.1. Scope

This study was carried out within a scope in two dimensions, spatial and taxonomic. The spatial scope of this research was limited to the 22 countries with jurisdiction in the East Asian-Australasian Flyway, as defined by the East Asian-Australasian Flyway Partnership (EAAFP no year). In this report, migratory shorebirds are considered as a subset of families (i. e., Scolopacidae, Rostratulidae, Glareolidae, Recurvirostridae, Hematopodidae, Chradriidae) within the order Charadriiformes following Geering et al. (2007).

3.2. Data collection and analysis

This research was conducted through document analysis and stakeholder interviews. Key policy documents were identified through expert consultation and literature searches encompassing technical reports on shorebird conservation and web-based searches. Additionally, interviews of key

stakeholders (i. e., government, NGOs, and research institutions) were carried out between March and June 2014 in Australia, China, and the Republic of Korea. People selected for interviews were senior officials with expertise, and conservation experience, on at least one of the following topics: wetlands, shorebirds, policy, or Yellow Sea coastal environmental issues. A total of 29 interviews were conducted (Australia: 13; China: 7; Republic of Korea: 9). Sessions were individually tailored to each interviewee and included open-ended questions covering five main aspects: i) policy development, ii) policy implementation, iii) policy performance, iv) stakeholder participation, and v) areas of improvement. These interviews were conducted in a semi-structured manner, which allowed further exploration of particular themes as the enquiry process unfolded (Hay 2005). Subject to consent from interviewees, most interviews were digitally recorded, whereas a few were recorded by note taking. All interviews were transcribed, coded, and analysed using a qualitative data analysis software (QDA Miner Lite). Story-telling analysis was used to unveil details about the key topics covered by the interviewees according to the different policy instruments considered in this study (Fischer et al. 2007). Additionally, review of secondary material, which included peer-reviewed literature, allowed in some instances intertwining, interpreting, and expanding the information gathered through the interviews.

Potential caveats of the information gathered through stakeholder interviews may be related to language barriers. As almost half of the interviewees were non-native English speakers (n=13), precision of the information obtained may have been compromised as their command of this language varied. Additionally, selection of interviewees may have been biased towards people with command of English. Nevertheless, this approach may have not completely biased the results, as most people who have experience in the key aspects considered in this research generally speak English as they are cross-boundary issues.

All interviews were conducted following a research ethics protocol approved by the East Asian-Australasian Flyway Partnership Secretariat based on the best practice guidelines from the Australian Evaluation Society (AES 2013). All participants signed such an ethics protocol and agreed to be kept anonymous at all times. All content arising from interviews included in this report has been verified by interviewees to check for accuracy and ensure confidentiality.

4. Results

4.1. Characterisation of the international policy framework for migratory shorebird conservation

An international conservation policy framework that includes consideration of the status of migratory shorebirds has been emerging within this flyway since the 1970s (Figure 1). The current policy framework comprises binding and non-binding instruments, spanning bilateral and multilateral approaches (Figure 2). Eleven binding bilateral agreements specifically enacted for the conservation of migratory bird species have been signed by seven countries in the flyway, mostly involving northern hemisphere countries at mid and high latitudes, and a single major country in the southern hemisphere (Figure 3). This set of countries creates a cluster of closer interactions (Figure 2). There are also three binding multilateral agreements relevant to migratory shorebird conservation in the flyway, ranging widely in membership (Table 1). Amongst them, the Ramsar convention is habitat-focused, whereas the Convention on Migratory Species is species-focused, and the Convention on Biological Diversity is a framework treaty with a broad biodiversity conservation scope. Finally, the East Asian-Australasian Flyway Partnership is a non-binding multilateral and multisectoral agreement to primarily facilitate waterbird conservation actions. When all policy instruments are considered (i. e., binding and non-binding), the countries that stand out with most

participation (≥5 instruments) are Russia, China, Australia, the Republic of Korea, and Japan. Conversely, the countries with least participation (≤2 instruments) are Brunei, Timor Leste, Laos, Papua New Guinea, and Vietnam.

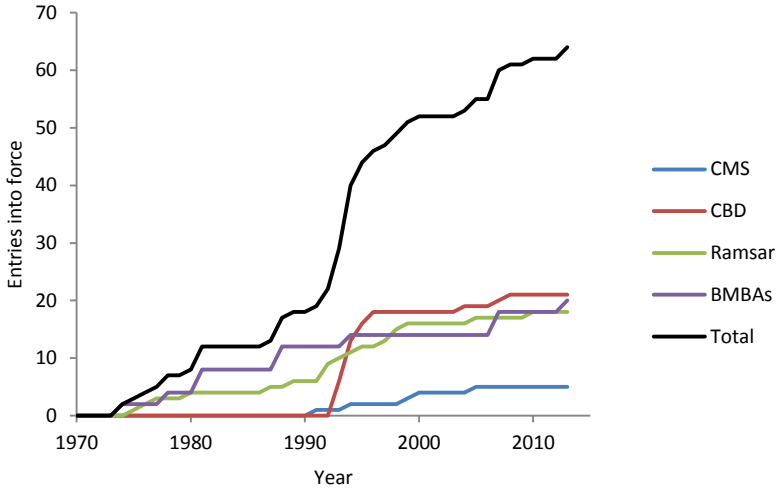

Figure 1. Number of times a country in the East Asian-Australasian Flyway has become bound by a binding international policy instrument relevant to migratory shorebird conservation (CMS: Convention on Migratory Species; CBD: Convention on Biological Diversity; Ramsar: Convention on Wetlands; BMBAs: Bilateral Migratory Bird Agreements).

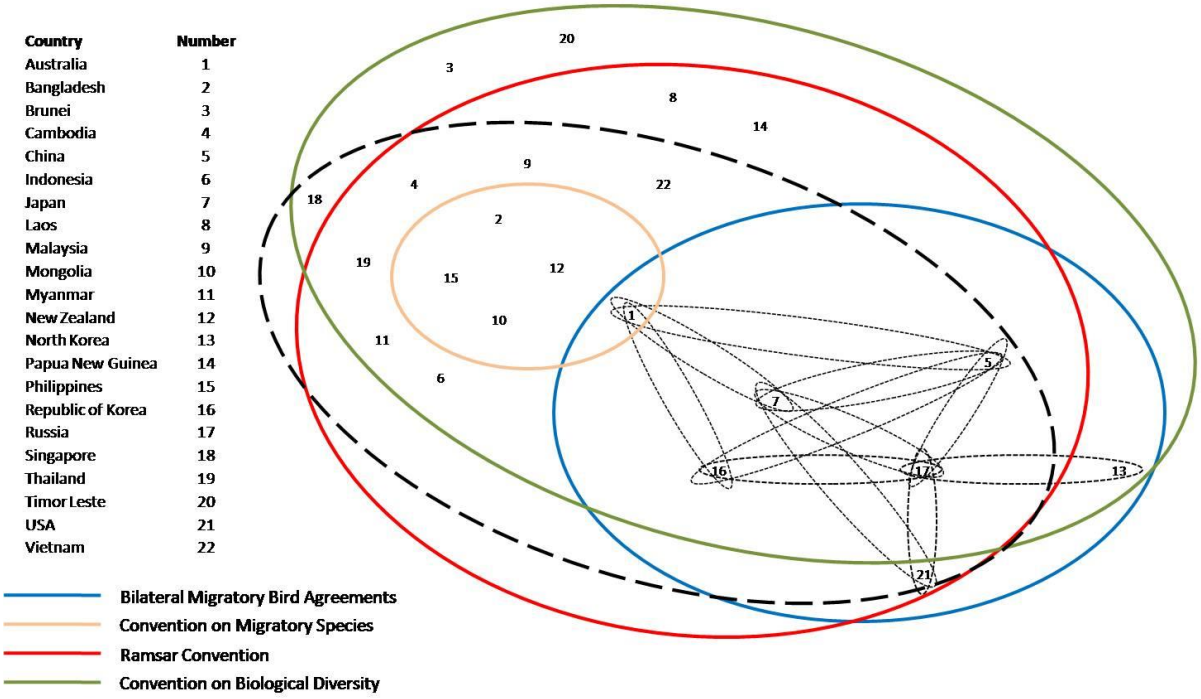

Figure 2. "Regime complex" of migratory shorebird conservation in the East Asian-Australasian Flyway. The diagram shows the different degrees of overlap and nesting of all existing international policy instruments.

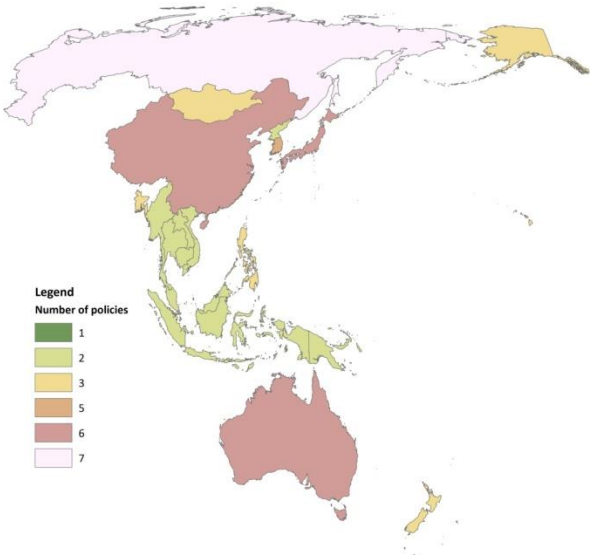

Figure 3. Number of binding international policy instruments relevant to migratory shorebird conservation to which each country is bound in the East Asian-Australasian Flyway.

Policy instrument	Membership (% of range states)
Convention on Migratory Species	28
Convention on Biological Diversity	95
Ramsar Convention	81

Table 1. Membership of binding multilateral treaties relevant to migratory shorebird conservation in the East Asian-Australasian Flyway.

4.1.1. Binding agreements

The relative importance of the binding international policy instruments is not appraised in this report. Therefore, the sequence of the agreements in this section does not reflect their significance. Nonetheless, some qualitative aspects of their performance is provided through identified challenges and opportunities based on the stakeholder interviews (section 4.3.).

4.1.1.1. Bilateral Migratory Bird Agreements

Overview

Bilateral migratory bird agreements (BMBAs) have proliferated within the East Asian-Australasian Flyway. The text of the treaties has remained largely unchanged since the first agreement was enacted in 1972 between USA and Japan. Eleven bilateral agreements have been signed between seven countries in the region, Australia, China, the Democratic People's Republic of Korea, Japan, the Republic of Korea, the Russian Federation, and USA (Table 2). The latest agreement was signed between China and Russia in 2013, and some other bilateral agreements have been drafted but not concluded (Australia-Russia, Australia-Papua New Guinea, Australia-Indonesia, Australia-Vietnam, Republic of Korea-Japan). These agreements are legally binding and are subject to renewal every 15 years, although their status is in many cases unclear (Table 3). These agreements are based on species lists (Appendix 2) with single appendices subject to updates, whose species are covered by their provisions. Most of the agreements are publicly available and their languages reflect those of their contracting parties, with the exception of the agreement between Russia and the Republic of Korea that is also officially in English. All of these agreements recognise migratory species as those for which there is scientific evidence of regular/cyclical movements between the signatory countries. All the agreements recognise that migratory birds face some level of extinction risk, that their

conservation requires international cooperation, and that birds are important elements of the environment as they bear economic, aesthetic, scientific, and recreational values.

Pair of countries signatory to BMBAs
USA-Japan
USA-Russia
Japan-Australia
China-Australia
Republic of Korea-Australia
Republic of Korea-Russia
Russia-Japan
Russia-China
Republic of Korea-China
Japan-China
Russia-North Korea

Table 2. Bilateral migratory bird agreements (BMBAs) signed in the East Asian-Australasian Flyway.

Provisions

In broad terms, these agreements are all very similar and contain five main provisions, albeit differing slightly in specific wording (Table 3), as follows:

A. *Take* regulations: *take* in this case makes reference to hunting and egg harvest. Contracting parties will prohibit *take* of birds. However, exceptions include cases in which *take* occurs as part of scientific, educational, traditional, propagative, and management purposes. Furthermore, hunting may occur within a regulatory framework established by each contracting party being consistent with species biology.

B. Habitat protection: contracting parties shall endeavour to establish measures to protect and manage habitats for the conservation of migratory birds. Contracting parties shall also seek means to prevent damage to migratory birds and their environment. In addition, only one agreement, USA-Russia, has a special appendix on the designated sites to be protected, as well as it is the only agreement with specific provisions on habitat restoration.

C. Trade ban: trade, both domestic and international, of migratory birds will be prohibited by contracting parties.

D. Biosecurity: contracting parties will control the translocation of plants and animals that could undermine the conservation status of migratory birds.

E. International cooperation: contracting parties will cooperate through knowledge sharing, as well as joint research and conservation projects.

Procedures

The operation of the agreements occurs through mutual consultation and settlement between contracting parties. These agreements do not have formal mechanisms of enforcement or imposing sanctions to violators. Contracting parties meet every two years where they share, review, and discuss actions of implementation and future work plans. Two independent fora (Australia-China-Japan-Republic of Korea and Russia-USA-Japan) have been established where bilateral meetings are held back to back preceded by a day multilateral meeting where common issues are discussed. Attendees to the meetings include government officials and invited guests, including NGO representatives and academic specialists. The species appendix of each agreement is subject to change upon mutual agreement of contracting parties.

Provision/Agreement*	USA-J	USA-R	J-A	C-A	ROK-A	ROK-R	R-J	C-R	ROK-C	DPRK-R	C-J
Year entered into force	1974	1978	1974	1988	2007	1994	1988	2013	2007	Unkn	1981
Current	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes	Yes	Unkn	Yes
Appendix of migratory species	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
Appendix of threatened species	Yes	No	Yes	No	No	No	No	No	Unkn	Unkn	No
Appendix on protected sites	No	Yes	No	No	No	No	No	No	Unkn	Unkn	No
Habitat conservation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
Take (hunting and egg collection)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
Ban on trade	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
International cooperation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
Knowledge sharing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unkn	Unkn	Yes
Biosecurity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Unkn	Unkn	Yes
Habitat restoration	No	Yes	No	No	No	No	No	No	Unkn	Unkn	No

*Legend: A (Australia); C (People's Republic of China); DPRK (Democratic People's Republic of Korea); J (Japan); R (Russian Federation); ROK (Republic of Korea); USA (United States of America). The text of the ROK-C and DPRK-R Bilateral Migratory Bird Agreements was neither available, nor the currency of the ROK-R and R-J Bilateral Migratory Bird Agreements.

Table 3. Main provisions and key details of each of the 11 Bilateral Migratory Bird Agreements signed in the East Asian-Australasian Flyway.

4.1.1.2. Ramsar Convention on Wetlands

Overview

The Ramsar convention is habitat-focused and long-established. This legally binding multilateral policy instrument was concluded in 1971 and entered into force in 1975. The initial motivation of the convention was the conservation of habitat for migratory waterbirds, hence being clearly relevant to shorebirds in the EAAF. However, the convention has evolved towards a more holistic approach on management of wetlands in a way that allows for the maintenance of their ecological character considering other taxa and ecosystem complexity. This convention recognises that wetlands are critically important to humanity and wildlife. Therefore, their conservation is required in face of their degradation due to human stressors and international engagement to achieve that goal is imperative. Under this convention, wetlands are defined as areas of marsh, fen, peatland, or water, natural or artificial, permanent or ephemeral, static or flowing water, fresh, brackish, or salt, including marine water with less than 6 meters depth at low tide. This convention is implemented through the designation of Ramsar sites, also known as wetlands of international significance following agreed criteria (Table 4). Currently, the convention classifies 42 types of wetlands within three categories: marine and coastal, inland, and human-made.

Criterion category	Criterion
Ecosystemic	Contains wetland types that contribute to the overall ecosystem representativeness of Ramsar listed sites.
Biodiversity	Occurrence of threatened species or ecological communities.
	Occurrence of keystone species.
	Provision of habitat critical to complete the life cycle of flora or fauna species.
	Occurrence of at least 20,000 waterbirds or the maintenance of at least 1% of any given waterbird population.
	Supports fish, including fish community processes and composition, that are representative of wetland benefits.
	Occurrence of at least 1% of any given wetland-dependent non-avian taxon population.

Table 4. Criteria for designation of Ramsar sites.

This convention has a large membership both globally and in the flyway. As of 2014, a total of 168 countries have ratified it, which includes 18 out of the 22 countries within the EAAF. A total of 310 Ramsar sites have been designated within this flyway covering a total area of 29,596,334 hectares. Australia, Japan, China, USA, and Russia are prominent in the number of Ramsar sites designated by each party (Figure 4). However, this list changes slightly when considering area covered by Ramsar sites, as Australia, China, and Russia, are the most prominent ones (Figure 4). These rankings should be interpreted cautiously as they are absolute, not relative. They are not corrected considering designation latency and country area.

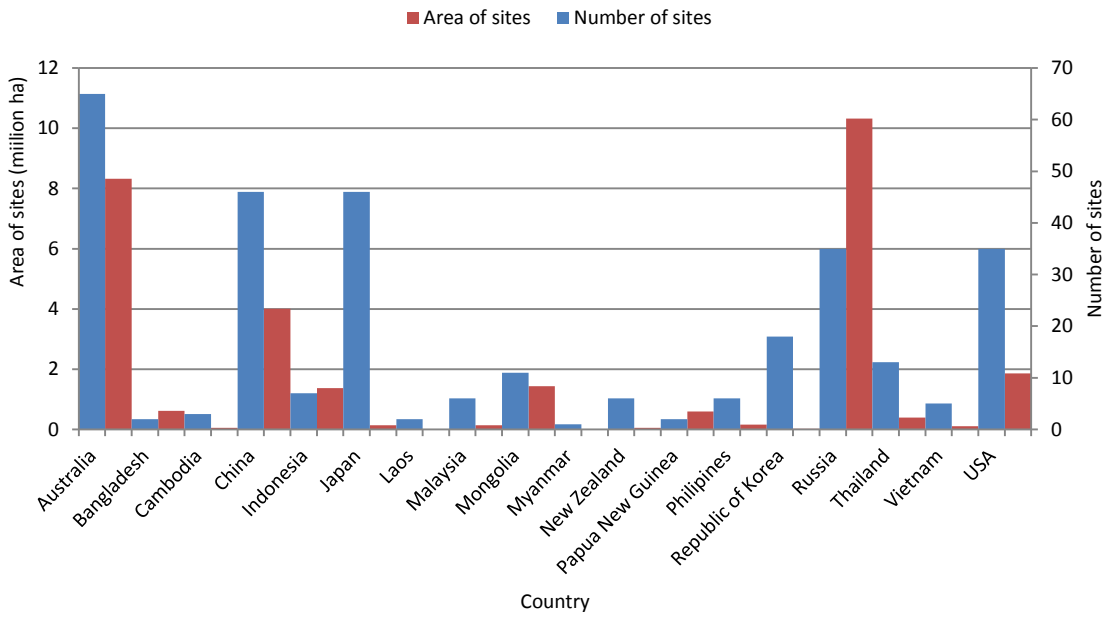

Figure 4. Total area of Ramsar sites and number of Ramsar sites designated by each of the parties to the convention within the East Asian-Australasian Flyway.

Provisions

This convention encourages parties to manage wetlands through the wise-use principle. This principle refers to the management of wetlands within a framework that allows meeting human needs sustainably and the maintenance of their ecological character. Thus, the main provisions of this convention refer to the sustainable management of wetlands, as follows:

A. Designation of wetlands of international importance: each party to the convention will designate at least one Ramsar site according to their significance in terms of ecology, botany, zoology, limnology, and hydrology. The number and boundaries of existing designated wetlands can be modified as a response to national interests. However, such changes should trigger compensation actions, through the protection of wetlands and waterbirds adequately equivalent.

B. Management of designated wetlands: contracting parties will formulate and implement plans that promote the conservation and wise use of designated areas. Management of wetlands requires a mechanism for monitoring and reporting of changes in ecological character of designated sites as a result of human activities.

C. Conservation of wetlands and waterbirds: protected areas are to be established by the contracting parties for the protection of wetlands and waterbirds, regardless whether they are designated Ramsar sites or not. Additionally, contracting parties will commit to increase waterbird populations on appropriate wetlands.

D. Knowledge building and sharing: the convention will promote the execution of research projects and data exchange regarding wetlands and their flora and fauna.

E. Capacity building: contracting parties will promote the training of personnel for wetland management, research, and wardening.

G. Governance: contracting parties are encouraged to establish a governance mechanism, involving all relevant stakeholders, for the coordinated implementation of the convention.

Procedures

This Convention is not a regulatory regime and has no punitive sanctions for violations. However, its terms constitute a binding treaty under international law. This policy instrument is based upon an expectation of common and equitably shared transparent accountability. Failure to meet obligations from contracting parties could have repercussions, such as political and diplomatic discomfort in high-profile international fora, lost access to international funding for wetland conservation, and prevention from accessing the benefits from the convention mechanisms to assist countries in the management of wetlands.

Nonetheless, some parties have enacted national legislation and policies for Ramsar implementation that can have direct impact in their own judicial systems. For instance, the Wetland Conservation Act, which is the main instrument for Ramsar implementation in the Republic of Korea comprises penal provisions. Under article 23 of this Act: "any person who has reclaimed the wetlands designated and publicly announced as the wetland protection area pursuant to the provisions of Article 8, without a license as prescribed in the Public Waters Reclamation Act shall be punished by imprisonment not exceeding three years or by a fine not exceeding twenty million won".

The Ramsar convention is implemented through a continuous decision-making process involving three interacting bodies: the Contracting Parties, the Standing Committee, and the Convention Secretariat. The advisory expert bodies to the convention include the Scientific and Technical Review Panel and the International Organization Partners. The Conference of the Parties (CoP) is the primary Ramsar Convention institution, which is held every three years. The CoP is the policy-making organ of the convention, a venue for approval of resolutions, recommendations, and technical guidelines. Furthermore, the CoPs are used as the forum for presentation of national implementation actions, as well as future plans for implementation. Attendees at CoPs include government officials accompanied by technical experts. CoPs may be additionally attended by NGOs, non-party countries, and intergovernmental institutions as observers with non-voting rights. Because CoPs are held every three years, the Standing Committee was set up as a mechanism for decision-making intersessionally with meetings held annually. This body is made up of representatives from select contracting parties, who are elected at each CoP to serve for the following three-year period. The Secretariat is in charge of the day-to-day operation of the convention, it maintains the list of Ramsar wetlands, provides assistance to country members, as well as facilitates the functions of the contracting parties through the CoP, the Standing Committee, and the Scientific and Technical Review Panel.

Contracting parties have an obligation to report in three aspects: 1) national implementation, 2) changes to ecological character of Ramsar sites, and 3) enquires received by the Secretariat from third parties about the former two aspects of reporting. National reports of implementation are triennial and are public documents.

This convention does not impose specific obligations on parties to enact legislation for wetland management. However, it does include obligations to list at least one wetland as a Ramsar site and to properly manage it, which implies the need for a robust policy framework in each country party to the convention.

The nomination of sites can be proposed by different stakeholders, including civil society. However, the actual designation of a wetland as a Ramsar site is to be done by the Administrative Authority in each country through a process of recognition by the Ramsar secretariat.

4.1.1.3. Convention on Migratory Species

Overview

The CMS is a species-focused instrument with skewed membership. The CMS was completed in Bonn in 1979 and entered into force in 1983. Hence, this convention is also known as the Bonn Convention. This convention is aimed at the conservation of migratory species worldwide through research, conservation actions, and cooperation. The membership of this agreement involves 120 countries, mostly concentrated in Europe and Africa. Within the jurisdiction of the East Asian-Australasian Flyway, only five countries out of 22 are parties to this convention (Appendix 1).

This instrument is a binding framework convention covering arrangements ranging from legally-binding agreements to less formal arrangements. The CMS is species list-based, containing two appendices which confer two levels of attention to species included in them. On the one hand, appendix I includes species that are endangered requiring immediate and strict action by governments, which includes habitat conservation, restoration, and threat abatement. These responsibilities are considered as legal under the Convention. On the other hand, appendix II comprises species that have an unfavourable conservation status requiring international agreements for their conservation, as well as those with a conservation status for which international cooperation would be beneficial. Agreements to protect species under Appendix II can be legally-binding, which does not require signatory countries to be a CMS party.

Provisions

This convention is underpinned by a recognition of the importance of migratory species and range states agreeing to take specific conservation actions, particularly for those species that are declining. This convention contains two appendices, which confer different level of protection to species in it. Appendix I includes migratory species that are threatened, whereas Appendix II includes migratory species that are not threatened but whose status is unfavourable. The specific provisions of the convention include the following:

A. Improve knowledge of migratory species: parties to the convention should promote, cooperate, and support research on migratory species.

B. Immediate protection of species: species listed under Appendix I should be protected through conservation and restoration of their habitats, removal of barriers to their migration, banning their take, as well as managing additional threatening processes affecting them.

C. Protection of species under specific CMS-framed agreements: contracting parties shall endeavour to conclude agreements covering the conservation and management of species listed under Appendix II. These agreements should cover the whole range of the species of concern, and should be open to accession by all range states regardless of CMS membership.

Procedures

The Conference of the Parties (CoP) is the decision-making organ of the convention, which meets at least once every three years. This forum is used to monitor the conservation status of migratory species, review the progress made under the agreements, and make recommendations to the parties for improving the conservation status of appendix-listed species.

The standing committee is responsible for carrying out interim activities on behalf of the CoP with the following functions: ensure decisions are implemented, monitor the budget, make recommendations for consideration by the next CoP, and provide advice and guidance to the secretariat. This committee meets once every year, as well as before and after each CoP. The membership of it is made up of representatives from every global region, the depositary country, and the host countries from the immediately previous and next CoPs.

The Scientific Council is the organ of the convention in charge of providing advice on scientific matters to the CoP. Issues covered by the Scientific Council include the following: listing of species, research on migratory species, specific conservation and management measures, designation of species for concerted actions under the convention, and funding eligibility under the CMS's Small Grants Programme. The membership of this body is flexible, which includes appointed representatives from parties, as well as experts designated by the CoP. Meetings of the council do not have a frequency set, however it usually meets once between, and once before, each CoP.

The Secretariat of the CMS is provided by the UNEP and has the responsibility of the day-to-day convention's operations. Specific functions of the secretariat involves: coordination of the CoP and the Scientific Council, facilitation of liaison between the parties, the standing bodies set under the agreements, and other relevant international organisations, dissemination of relevant information that may assist the implementation of the convention, maintenance and making publicly available all species covered under the appendices, promotion of the conclusions of the agreements, communication with the general public about the convention, and maintenance and publication of the list of recommendations agreed by the CoP.

The appendices are subject to amendment. Both Appendix I and II can be modified by suggestion of any party, either at an ordinary or extraordinary CoP, using the best scientific available evidence, and agreed upon by at least two-thirds of the parties present at the time of voting. Parties have the right to make reservations for the adoption of specific species under the agreement.

Any dispute arising from this convention between any given parties is to be dealt with through negotiation between them. If a concerted decision is not mutually agreed upon, an arbitration process using a third party, such as the Hague International Court, will be used and parties will be bound by the arbitral decision.

4.1.1.4. Convention on Biological Diversity

Overview

The CBD is the centrepiece of international policy for action on biodiversity. The CBD was completed in 1992 and entered into force in 1993 with 168 parties. This treaty is a binding framework convention with three broad objectives regarding the conservation and use of biodiversity, namely: conservation of biodiversity, sustainable use of biodiversity, and equal sharing of benefits derived from genetic resources. The membership of this convention is one of the largest of any in the world, with a total of 194 parties. Within the East Asian-Australasian Flyway, this pattern is maintained with 21 out of 22 countries being parties to it.

Provisions

As a framework convention, this treaty does not have specific provisions for migratory shorebird conservation; it rather contains provisions that set a general framework of plans and mechanisms for the implementation of actions by each country according to the main objectives of the convention. Some of those general provisions include the following: *in-situ* and *ex-situ* biodiversity

conservation measures, sustainable use of biodiversity through bottom-up/top-down and multisectoral approaches, public education and awareness, research and training, capacity building, creation of an Environmental Impact Assessment procedure, rules for access to genetic resources, information sharing, and encouragement for international cooperation.

Procedures

The decision-making process of the CBD is implemented through the interaction of several bodies. The Conference of the Parties (CoP) is the governing body of the convention, which advances its implementation through decisions taken at its periodic meetings. The CoP initially met annually, but since 2000 the CoP meets every two years. Recommendations to the CoP are made by the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA). This body is responsible for the following duties: providing assessment of the status of biodiversity, providing assessment of the types of measures taken in accordance with the provisions of the convention, and respond to enquiries from the CoP. Membership of the SBSTTA includes government representatives with expertise in relevant fields, as well as observers from non-party governments, the scientific community, and other relevant organisations. The SBSTTA makes recommendations to the CoP that may be endorsed, thus becoming decisions *de* facto. This body meets as necessary and sufficiently in advance of each regular CoP. The secretariat of the CBD is hosted by the UNEP and has the following roles: represent the day-to-day focal point for the convention, provide administrative support to the CoP and other subsidiary bodies of the convention, support parties in the implementation of the convention, and facilitate internal and external communication.

Two relevant working groups generate recommendations to the CBD. The Working Group on the Review of Implementation, whose role is to strengthen the implementation of the convention, generates recommendations to the CoP. The working group on Protected Areas has the mandate of improving the programme work on protected areas.

Several ancillary bodies also assist CBD implementation. For instance, seven thematic programmes of work on major biomes, including the marine and coastal zone, have been established. Each programme has its own governing principles, based on a vision, work plans, and outputs. The CoP and the SBSTTA periodically review the implementation of the work carried out by these programmes. Additionally, the CBD has established cross-cutting issues as those actions requiring bridging the gap between thematic programmes, as well as standalone products (e.g., guidelines and tools). Cross-cutting issues include ecosystem restoration, ecosystem approach, and gender and biodiversity, among many others.

Disputes between parties arising from the interpretation and implementation of the CBD are settled through negotiation or arbitrage. If parties in dispute fail to reach agreement, they will be subject to arbitrage by a third party, which may include the International Court of Justice.

4.1.2. Non-binding agreements

4.1.2.1. East Asian-Australasian Flyway Partnership

Overview

The EAAFP emerged from a long history of waterbird conservation efforts in this flyway. The International Workshop on Conservation of Migratory Waterbirds and their Wetland Habitats held in Japan, resulted in the Asia-Pacific Migratory Waterbird Conservation Strategy. This initiative, which ran from 1996 until 2005, created a framework to have a coordinated approach to waterbird conservation through the establishment of a reserve network and working groups on specific bird

taxa (i. e., cranes, shorebirds, duck and geese). This arrangement eventually resulted in the East Asian-Australasian Flyway Partnership in 2006. This non-binding agreement was launched as a Type II Initiative within the context of the World Summit on Sustainable Development held in 2002. The secretariat of the EAAFP is currently hosted by the Incheon Metropolitan City in the Republic of Korea through a memorandum of understanding.

Provisions

The overall purpose of the EAAFP is to foster cooperation across the flyway for the conservation of migratory waterbirds. This includes the facilitation of communication and collaboration between multiple stakeholders from different sectors and from different levels of government. The specific provisions of this agreement include: i) habitat conservation through the development of a Flyway Site Network according to set criteria (Table 5), ii) increasing public awareness through education and communication about migratory waterbirds, iii) promoting research on waterbirds and their habitats, iv) building capacity for the management of waterbirds and their habitats, and v) developing flyway wide approaches for migratory waterbird conservation.

Criteria	Framework	Threshold
Internationally important sites	Ramsar convention	Presence of threatened species Regularly supports ≥20,000 waterbirds Regularly supports ≥1% of the population of one species or subspecies of waterbird
Staging sites	Asia-Pacific Migratory Waterbird Conservation Strategy	Regularly supports ≥0.25% of the population of one species or subspecies of waterbird on migration Regularly supports ≥5,000 waterbirds on migration

Table 5. Criteria for the designation of wetlands under the Flyway Site Network.

Procedures

The membership and operation of this agreement is flexible in comparison with that of the binding agreements. The EAAFP is open to partners from sectors including national governments, non-governmental organisations, inter-governmental organisations, and the corporate sector. Even though the membership of this agreement may be withdrawn at any time by partners, its membership has been growing steadily (Figure 5).

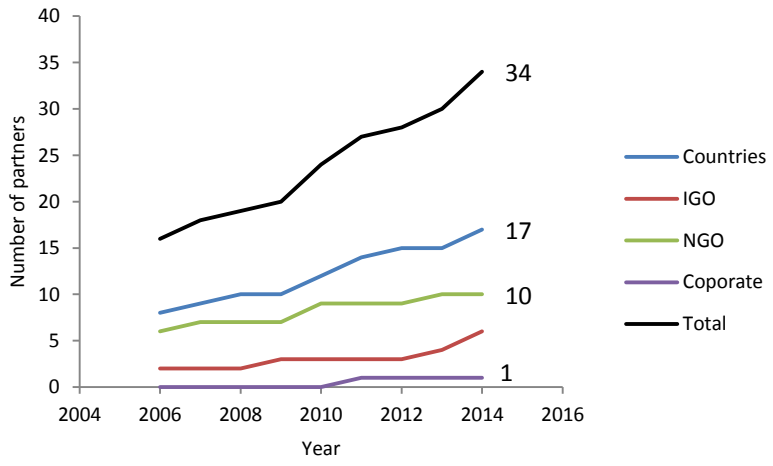

Figure 5. Partners to the East Asian-Australasian Flyway Partnership over time (IGO: Inter-governmental Organisation; NGO: Non-government Organisation; Corporate: private enterprise).

The EAAFP secretariat is responsible for the administration of the partnership. This body facilitates communication and coordinates activities for the implementation of the partnership. Financial

contributions to the secretariat by the partners are encouraged but are not compulsory. The Meeting of the Partners, held every 1 to 2 years, is the forum where partners gather to report on implementation, address emerging issues, and discuss further collaboration. The text of this partnership, which includes the list of bird taxa covered under the agreement, may be changed by consensus of the partners.

This EAAFP is governed by the partnership document, with ancillary supporting documents. The former includes the goals and principles of operation of the partnership, whereas the latter include the specific mechanisms for implementation. The main implementation instrument is the Implementation Strategy, which is renewed every five years. The achievement of objectives under this document is supported by seven working groups and six task forces that have been established to coordinate activities more specifically on key avian taxa, regional areas of importance (e. g., Yellow Sea), as well as on emerging issues (e. g., avian influenza) and strategies (e. g., communications). Those in turn may have their own strategies for implementation of their goals. For instance, the working group on Communication, Education, Participation, and Awareness (CEPA) has developed a strategy to foster communication at multiple levels in order to raise awareness of the importance of the EAAF, empower stakeholders to take action, and streamline migratory waterbird conservation into sustainable development.

4.2. Implementation of the binding international policy instruments for the conservation of migratory shorebirds in Australia, China, and the Republic of Korea

International policy instruments require that they are domestically implemented through policy in order to make effective the provisions to which parties are bound. In this report, all international instruments identified are considered to establish their implementation in Australia, China, and the Republic of Korea. The Convention on Biological Diversity, nevertheless, is not considered as this is a framework convention that has multiple ramifications for its implementation. Likewise, the East Asian-Australasian Flyway Partnership is not considered either, as this is a non-binding agreement implemented voluntarily.

4.2.1. Bilateral Migratory Bird Agreements

4.2.1.1. Australia

The implementation of the Bilateral Migratory Bird Agreements in Australia has occurred at different levels of government according to different provisions. The administration of these agreements is under the Australian Government's Department of the Environment; however some provisions have been implemented at sub-national level. Hunting regulations of migratory shorebirds have been implemented through state-level legislation. Such is the case of Latham's snipe *Gallinago hardwickii*, which used to be a species subject to an open hunting season. A hunting ban of the species was initially enacted in New South Wales in 1976, and a similar ban was introduced in Tasmania and Victoria in 1983 and 1984, respectively, apparently a result of compliance with the Japan-Australia Migratory Bird Agreement (Naarding 1985). The species was eventually also protected from hunting in Queensland and South Australia, but the date of such decisions is unclear. There is also evidence that eastern curlew *Numenius madagascarensis* and bar-tailed godwit *Limosa lapponica* were formerly hunted (Littler 1910, Park 1983). According to Wall (1953), hunting of eastern curlew in Tasmania during 1948 to 1951 was already an illegal activity; however, the general policy context of that activity remains unclear. There is scant evidence of additional species of migratory shorebirds having been subject to hunting in Australia. In any case, all migratory shorebirds are currently legally protected from hunting through state-level legislation across the country (Table 6).

Government	Policy instrument
Commonwealth	EPBC Act 1999
	Water Act 2007
	Wildlife Conservation Plan for Migratory Shorebirds
State and territory	NSW Game and Feral Animal Control Act Further Amendment Act 2012
	VIC Game Management Authority Act 2014
	TAS Nature Conservation Act 2002
	TAS Wildlife (general) Regulations 2010
	QLD Nature Conservation Act 1992
	NT Parks and Wildlife Commission
	WA Conservation and Land Management Act 1984
	WA Wildlife Conservation Act 1950
	SA National Parks and Wildlife Act 1972

Table 6. Relevant domestic policy instruments implementing the Bilateral Migratory Bird Agreements in Australia.

The habitat protection provisions of all the bilateral agreements have been partially implemented through Commonwealth legislation. The EPBC Act has been the mechanism for reactive habitat conservation, as it sets parameters for controlling proposed actions that may have detrimental impacts on listed shorebird species. The EPBC Act is the centrepiece of environmental legislation of Australia and lists all species included under the bilateral migratory bird agreements, that Australia is a party to, as migratory species which are a matter of national environmental significance. This treatment includes species listed in the Bilateral Migratory Bird Agreements and confers the same level of protection to all of them. Additionally, the Commonwealth Water Act 2007 has specific provisions for the implementation of the Bilateral Migratory Bird Agreements signed by Australia in relation to habitat management in inland wetlands within the Murray-Darling basin.

There are additional policy instruments that have provided a framework for the implementation of provisions on habitat conservation. For instance, habitat management has occurred through the Ramsar convention, which is coherent with the Bilateral Migratory Bird Agreements as this convention was initially created as a habitat-based approach for waterbird conservation. Furthermore, a Commonwealth Government Wildlife Conservation Plan has been developed for the conservation of migratory shorebirds and was published in 2006. This plan was created under the EPBC Act, which provides the framework for the development of plans for management actions and cooperative research of non-threatened species that are EPBC protected (e. g., migratory). This plan is currently under review.

Local governments have also been identified by the Commonwealth government as stakeholders playing an important role in the implementation of the Bilateral Migratory Bird Agreements. This level of government translates Commonwealth and State policy into actions and decisions on land use and management. For instance, some local government areas have included the habitat protection provisions of the agreements explicitly through local laws and planning requirements.

4.2.1.2. China

The implementation of the Bilateral Migratory Bird Agreements has not had any apparent translation into domestic policy; although, some policy instruments are aligned with some of the provisions of the agreements. The administration of these agreements is under the State Forestry Administration, which has unsuccessfully attempted to incorporate the Bilateral Migratory Bird Agreements into domestic policy. As the Ramsar convention has overlapping provisions with the Bilateral Migratory Bird Agreements, such a convention could be considered as one of the instruments implementing the provisions related to establishment of protected areas. Habitat conservation under the Bilateral Migratory Bird Agreements also comprises the prevention of habitat loss, which could be interpreted as a mechanism to avoid habitat destruction in areas that have no protected area status. In this context, the recently enacted Management Rules on Wetland Protection 2013 could be supporting the implementation of the Bilateral Agreements. This new

policy prohibits the reclamation of coastal wetlands except for exemptions provided by other instruments. Additionally, the National Wildlife Protection Law sets the framework for the establishment of protected areas, which includes coastal wetlands.

The hunting provisions included in the Bilateral Migratory Bird Agreements are not clearly implemented through domestic policy in China. The National Wildlife Protection Law has prescriptions to control hunting; these include restrictions according to different levels of national protection. In China, species can be assigned to two different categories of protection, class I and class II. Species listed under these categories cannot be hunted unless for a special purpose approved by either the wildlife administration under the State Council, or the relevant wildlife administration at provincial government level. The list of species under class I and class II do not reflect the species appendices of the Bilateral Migratory Bird Agreements. Species that are not protected at national level are subject to hunting under a licensing and quota scheme; however there is limited evidence of how regulated hunting of shorebirds is practiced in China.

The Bilateral Migratory Bird Agreements have been instrumental for facilitating cooperation between countries through capacity building, scientific research, and knowledge sharing. For instance, as part of the China-Australia Bilateral Migratory Bird Agreement, Australia has provided training to site managers in China. Likewise, the China-Japan Bilateral Migratory Bird Agreement has been instrumental in building research capacity in China for the study of migratory birds. The National Bird Banding Chinese Centre was established through cooperation from the Japanese Bird Banding Office within the framework of such agreement. The cooperative work within the framework of the bilateral agreements tends to focus on the species of common interest. For instance, China and Japan are currently conducting cooperative research on Saunders's gull *Saundersilarus saundersi* as part of the China-Japan bilateral agreement. These agreements provide a framework to draw compulsory resources from the State Forestry Administration, so that the abovementioned activities can be carried out.

4.2.1.3. Republic of Korea

The implementation of the bilateral agreements in the Republic of Korea has happened through different policy instruments. The administration of these agreements is under the Ministry of Environment. The habitat conservation provisions of these agreements may be considered to be, at least partially, under the Ramsar convention and the Wetland Conservation Act, which has strengthened the management of coastal wetlands, including the delivery of CEPA activities.

The hunting provisions of the Bilateral Migratory Bird Agreements have been implemented through national legislation to a certain degree. The government agency in charge of wildlife management for hunting purposes in the Republic of Korea is the Ministry of Environment through the Enforcement Regulation of the Protection of Wild Fauna and Flora Act 2005. Under this law, the hunting of 85 species of shorebirds (Charadriiformes) is prohibited. Most of the species included in this list are not necessarily threatened but rather protected for other reasons. There is no clear evidence as to the extent to which the Bilateral Migratory Bird Agreements signed by the Republic of Korea influenced the listing of migratory shorebird species under this policy instrument. However, when comparing the species listed under the two Bilateral Migratory Bird Agreements whose appendices are available (Republic of Korea-Russia and Republic of Korea-Australia), 10 species out of a total of 74 are not included under the Korean national listing. Interestingly, among those species not included feature threatened species, such as Nordmann's greenshank *Tringa guttifer*, spoon-billed sandpiper *Calidris pygmeus*, Saunder's gull *Saundersilarus saundersi*, and eastern curlew *Numenius madagascarensis*. The list from the Ministry of Environment has some taxonomic inaccuracies, such as the inclusion of seabirds as shorebirds. Therefore it is quite possible that the exclusion of such species may be an error, but further examination is required.

4.2.2. Ramsar convention

Whilst some countries have long been engaged with the Ramsar convention in the EAAF, others have just started emerging as key players. Amongst the three countries considered here (i. e., Australia, China, and the Republic of Korea), Australia is by far the country with strongest Ramsar trajectory, as one of the first parties to the convention; it has designated the most sites in the region. At the other side of the spectrum is the Republic of Korea, which is the country to have acceded the convention most recently, as well as the one having designated a Ramsar site most recently (Figure 6, Table 7).

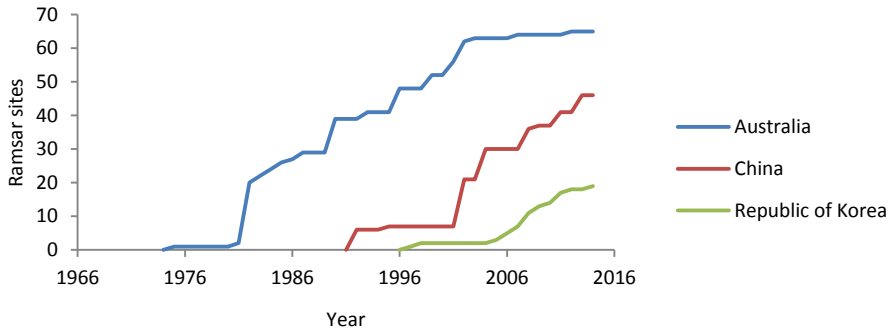

Figure 6. Designation of Ramsar sites since the convention entered into force in Australia, China, and the Republic of Korea.

Country	Entry into force	Number of Ramsar sites	Area covered by Ramsar sites (has)
Australia	1974	65	8.3 million
China	1992	46	3.8 million
Republic of Korea	1997	19	18.3 thousand

Table 6. Number of Ramsar sites and area covered by them in Australia, China, and the Republic of Korea.

4.2.2.1. Australia

Implementation of this convention through domestic legislation happens at different levels of government. The administrative authority of this convention is the Australian Government's Department of the Environment, which delegates and coordinates implementation actions to state and territory governments. At commonwealth level, the convention is primarily implemented through the EPBC Act and, complementarily, through the Water Act 2007. The aim of the EPBC Act is twofold; on the one hand it provides the framework for management of Ramsar sites as per principles of the convention, whereas on the other hand, it requires actions potentially affecting Ramsar sites to be assessed by the Australian Government's Department of the Environment. The Water Act provides a range of provisions for the sustainable management of water resources in the Murray-Darling basin, as well as established the Murray-Darling Basin Authority. In addition to these national level policy instruments, an array of state and territory pieces of legislation supports the implementation of the convention (Table 8).

Government	Policy instrument
Commonwealth	Environment Protection and Biodiversity Conservation Act 1999
	Water Act 2007
Western Australia	Environmental Protection Act 1986
	Rights in Water and Irrigation Act 1914
	Rights in Water and Irrigation Regulations 2000
	Wildlife Conservation Act 1950
	Soil and Land Conservation Regulations 1992
	Conservation and Land Management Act 1984
	Planning and Development Act 2005
	Aboriginal Heritage Act 1972
	Fish Resources Management Act 1972
	Land Administration Act 1997
Tasmania	National Parks and Reserves Management Act

Government	Policy instrument
	Environmental Management and Pollution Control Act 1994
	Living Marine Resources Management Act 1995
	Forest Practices Act 1985
	Mineral Resources Development Act 1995
	Land Use Planning and Approvals Act 1993
	Nature Conservation Act 2002
	Natural Resources Management Act 2002
	Marine Farming Planning Act 1995
	National Parks and Reserves Management Act 2002
	Threatened Species Protection Act 1995
	Forestry Act 1920
	Crown Land Act 1976
Victoria	Flora and Fauna Guarantee Act 1988
	Planning and Environment Act 1987
	Catchment and Land Protection Act 1994
	Environment Protection Act 1970
	Water Act 1989
New South Wales	Environmental Planning and Assessment Act 1979
	Local Government Act 1993
	Threatened Species Conservation Act 1995
	Fisheries Management Act 1994
	Native Vegetation Act 2003
	Noxious Weeds Act 1993
	Protection of Environment Operations Act 1997
	Pesticides Act 1999
	Rivers and Foreshore Improvement Act 1949
	National Parks and Wildlife Act 1974
Australian Capital Territory	Environment Protection Act 1997
	Nature Conservation Act 1980
	Planning and Development Act 2007
	Water Resources Act 2007
South Australia	Water Resources Act 1997
	State Water Plan 2000
	South Eastern Water Conservation and Drainage Act 1992
	Environment Protection Act 1993
	Native Vegetation Act 1991
	Soil Conservation and Landcare Act 1989
	Local Government Act 1999
	Development Act 1993
	Coast Protection Act 1972
	Harbours and Navigation Act 1993
	National Parks and Wildlife Act 1972
	Fisheries Act 1982
	Pastoral Land Management Conservation Act 1989
	Petroleum Act 2000
	Mining Act 1971
	Aboriginal Heritage Act 1988
	Aquaculture Act 2001
Queensland	Sustainable Planning Act 2009
	Great Barrier Reef Protection Amendment Act 2009
	Nature Conservation Act 1992
	Marine Parks Act 2004
	Fisheries Act 1994
	Native Vegetation Act 1999
	Water Act 2000
	Environment Protection Act 1994
Northern Territory	Environmental Assessment Act 2013
	Environmental Offences and Penalties Act 2011
	Fisheries Act 2011
	National Environment Protection Council Act 2004
	Water Act 2013
	Weed Management Act 2013
	Pastoral Lands Act 2013
	Planning Act 2013

Table 7. Relevant policies in Australia at national, state, and territory level implementing the Ramsar convention domestically.

Additional policies have been developed that support the implementation of the convention in Australia. The Biodiversity Conservation Strategy 2010-2030 provides a framework for the protection

and management of biodiversity in freshwater and marine environments. This policy instrument sets three targets relevant to wetland conservation, as follows: increase the area of habitat managed for biodiversity conservation in aquatic ecosystems, restore connectivity of fragmented aquatic ecosystems, and reduce the impacts of invasive species on aquatic ecosystems. Furthermore, a set of National Guidelines for Ramsar Wetlands has also been produced, which includes modules covering the following matters: description of ecological character, mapping specifications, and notification of changes in ecological character.

4.2.2.2. China

The convention is implemented through policy instruments at several levels of government. The administrative authority of this convention is the State Forestry Administration through the Convention on Wetlands Management Office. For instance, eighteen provinces have adopted wetland regulations, several national laws support the implementation of the convention (Table 9), and a national wetland regulation is currently being prepared by the State Forestry Administration. The State Forestry Administration has recently adopted the Management Rules on Wetland Protection, which set the basic approaches to wetland use, conservation, and restoration. This instrument is subordinated to laws passed by the National People's Congress and the State Council, although it has been created as a mechanism to catalyse the passage of a comprehensive National Law on Wetland Protection.

The Management Rules on Wetland Protection are aimed at strengthening wetland protection, as well as to implement the Ramsar Convention. Under this instrument several activities are prohibited in all wetlands except by special provisions in other policy instruments, as follows: reclamation, grazing, fishing, hunting, plant collection, introduction of alien species, draining, water diversion, dredging, mining, and sewage discharge. This new regulation will be very important in drawing further resources into wetland conservation, although enforcement will be particularly challenging considering development policy. Unfortunately, the legal authority of this instrument and the wetland conservation regulations enacted by provincial governments is the same, and sometimes with conflicting provisions. For instance, Jiangsu province indentifies tidal mudflats as a development zone and encourages reclamation. Hence, a policy instrument enacted by the National Congress could provide the framework to solve discrepancies.

Policy instrument
The Marine Environment Protection Law 1982
The Forest Law 1984
Fishery Law 1986
Wildlife Conservation Law 1988
Water Resources Law 1988
Environmental Protection Law 1989
Soil and Water Conservation Law 1991
Water Pollution Prevention Law 1996

Table 8. Main national policy instruments for domestic implementation of the Ramsar convention in China.

4.2.2.3. Republic of Korea

The Ramsar convention is implemented in this country through a national policy instrument with ancillary instruments supporting it (Table 10). The centrepiece instrument for implementation of this convention is the Wetland Conservation Act. This Act was enacted in 1999 and its purpose is to reflect the Ramsar convention and promote wetland management as prescribed by the convention. The administrative authority of this convention is the Ministry of Environment. However, the management of wetlands at national level is divided into two jurisdictions: inland wetlands are responsibility of the Ministry of Environment, whereas coastal wetlands are the responsibility of the

Ministry of Oceans and Fisheries. These two ministries are in charge of establishing and implementing policies for designation and conservation of wetland protection areas. The implementation of the convention is delegated by the central government through to provincial and local government areas.

Policy instrument
Wetland Conservation Act 1999
National Environment Conservation Act 1991
Environmental Impact Assessment Act 2008
Coastal Management Act 1999

Table 9. Main national policy instruments for domestic implementation of the Ramsar convention in the Republic of Korea.

The Wetland Conservation Act is the national centrepiece instrument for the implementation of the Ramsar convention in this country. This policy includes the following provisions: identification and monitoring of environmental and socio-economic factors of wetlands, cooperative research and information sharing at international level, establishment of a Fundamental Plan for Wetland Conservation, and creation of the National Wetland Management Plan. Additionally, the Wetland Conservation Act provides the legal framework for the protection of wetlands through the designation of Wetland Protection Zones, Wetland Surroundings Management Zones, and Wetland Rehabilitation Zone. Wetland Protection Zones can be designated by the Ministry of Environment, the Ministry of Oceans and Fisheries, and local governments, which can include their adjacent areas being designated as Wetland Surroundings Management Zones.

A National Wetland Review Committee has been established under the jurisdiction of the Ministry of Environment. This committee is in charge of the following matters: creation and revision of the fundamental plan, as well as enforcement of resolution statements and recommendations made by the CoP of the Ramsar convention. The chairperson of the committee is the Vice-minister of Environment. The vice-chair persons are high level officials within the Ministry of Environment and the Ministry of Oceans and Fisheries in charge of wetland policies. The members of the committee are commissioned by the Minister of Environment and include high-ranking public officials from the ministries, public officials from provincial governments, and persons with expertise and thorough knowledge of wetlands recommended by the Ministry of Oceans and Fisheries.

4.2.3. Convention on Migratory Species

4.2.3.1. Australia

The CMS is implemented by two different levels of government. The Commonwealth government is responsible for the CMS through the Department of the Environment; however, some of the provisions are delegated to state and territory governments. This arrangement is a response to the different jurisdictions of wildlife management, which is split between the Commonwealth and the state and territory governments. The former has responsibility within the EEZ up to 3 NM offshore, whereas the latter has responsibility inland and along the coast out to 3 NM offshore. The legislation that implements the CMS in Australia reflects these jurisdictions, with legislation implementing the convention at Commonwealth, as well as state and territory levels (Table 11). The EPBC Act lists species included in both CMS appendices as migratory species, which are a matter of national environmental significance. This recognition means that any activity potentially affecting adversely those species requires special approval by the Department of the Environment.

Government	Implementing legislation
Commonwealth	Environment Protection and Biodiversity Conservation Act 1999
	Great Barrier Reef Marine Park Act 1975
	Fisheries Management Act 1991
	Torres Strait Fisheries Act 1984

Government	Implementing legislation
	Native Title Act 1993
New South Wales	National Parks and Wildlife Act 1974
	National Parks and Wildlife Regulation 2009
	Threatened Species Conservation Act 1995
	Fisheries Management Act 1994
	Marine Parks Act 1997
Victoria	National Parks Act 1975
	Wildlife Act 1975
	Flora and Fauna Guarantee Act 1988
	Wildlife (Marine Mammal) Regulations 2009 (Statutory Rule No. 152/1998) [See Appendix II table below.]
	Fisheries Act 1995
Queensland	Marine Parks Act 2004
	Nature Conservation Act 1992
	Queensland Fisheries Act 1994
	Fishing Industry Organisation and Marketing Act 1982
South Australia	Natural Resources Management Act 2004
	National Parks and Wildlife Act 1972
	Fisheries Management Act 2007
	Marine Parks Act 2007
	Native Vegetation Act 1991
Western Australia	Wildlife Conservation Act 1950
	Western Australia Fish Resources Management Act 1994
	Fish Resources Management Act 1995
Tasmania	Living Marine Resources Management Act 1995
	Nature Conservation Act 2002 and National Parks and Reserves Management Act 2002
	Whales Protection Act 1988
	Tasmania Threatened Species Protection Act 1995
	Natural Resources Management Act 2002
Northern Territory	Fisheries Act 1988
	Territory Parks and Wildlife Conservation Act 2007
Australian Capital Territory	Nature Conservation Act 1980
National policy instruments	National Strategy for the Conservation of Australia's Biological Diversity
	Australia's Oceans Policy
	National Strategy for Ecologically Sustainable Development
	National Action Plan on Salinity and Water Quality
	Wetlands Policy of the Commonwealth Government of Australia
	Wildlife Conservation Plan for Migratory Shorebirds

Table 10. Implementing domestic policy instruments for the CMS in Australia.

4.3. Analysis of challenges and opportunities

This section presents an assessment of challenges and opportunities of the international policy framework; as such it has mostly an international focus, though some cases with national relevance to Australia, China, and the Republic of Korea are included. The challenges and opportunities were identified either explicitly or implicitly through the stakeholder interviews. Results presented here include all international policy instruments, and are mostly qualitative and descriptive.

4.3.1. Binding instruments

4.3.1.1. Bilateral Migratory Bird Agreements

Challenges

Perhaps the main challenge of these agreements is inherently related to their bilateral condition. This type of agreements are usually negotiated and implemented within a government-to-government context, which leaves civil society and other important stakeholders with limited participation. Reports arising from these agreements are not readily available to the general public and the civil society; though in some instances some reports may be accessed upon special request. The bilateral characteristic of these arrangements means governments often use them as a

mechanism to instigate collaborative activities with counterparts, rather than to actually instigate actions for conservation. Furthermore, bilateral agreements do not usually have a secretariat, which in some multilateral conventions can play an influential role facilitating communication, following-up implementation, and raising awareness of issues amongst contracting parties.

These bilateral agreements have a potential flaw in relation to migratory shorebird hunting to ensure populations are sustainably managed. As prescribed by the agreements, it is not compulsory to ban hunting, but only to manage it. Unfortunately, the agreements do not provide any mechanism to establish quotas in a coordinated fashion across countries, which is of course inadequate because populations of migratory species must be managed as a single stock across their entire migratory range. Locally managed hunting might create overexploitation due to the lack of coordinated information on all range states.

The lack of clear parameters in relation to habitat provisions in the text of the agreements may have precluded the implementation of more specific actions. Under the agreements, habitat is to be conserved by means of establishing protected areas, as well as by means of taking actions to avoid its destruction. Unfortunately, in neither case there are clear thresholds or criteria to implement specific actions on the ground, which has been left to interpretation and development of domestic policies by contracting parties.

The Bilateral Migratory Bird Agreements have been losing their political traction within Australia. These agreements are currently mostly perceived as a mechanism of international cooperation, when they in fact have clear provisions to address specific threats to migratory shorebirds. Moreover, the domestic emphasis placed on these agreements has somewhat declined over time. For instance, Australia's delegations to international meetings under these agreements were formerly larger and included more senior representatives. This was not only important for the domestic implementation, but also for how counterparts would approach and implement the agreements domestically.

Opportunities

Bilateral Migratory Bird Agreements have supported shorebird conservation by focusing resources. These instruments have created an opportunity within government departments and agencies to have budgets allocated for migratory shorebird conservation initiatives. In particular, these agreements have been important for conservation activity through research, capacity building, and awareness raising. Therefore, there is an opportunity to further use these agreements as a catalyst to access government funding and foster international cooperation.

The move to hold bilateral meetings back to back between some countries creates an opportunity for further integration. As there are already two independent fora holding bilateral meetings (Australia-China-Japan-Republic of Korea and Japan-Russia-USA), there might be an opportunity, at least in principle, to bring these two fora together. Some of these countries have also signed bilateral agreements with countries across these fora, such as for instance China and Russia. This arrangement could create an opportunity to still hold country-to-country bilateral meetings, whilst allowing for inclusion of most signatory countries within the same forum creating the possibility of a more open discussion of common issues and potential solutions.

There has been some level of participation by civil society in influencing these agreements. For instance, the Australian Government Department of the Environment has engaged the AWSG in the context of these agreements through consultation for species listings, work plans, and preparation for bilateral negotiations. Therefore, there is a channel to further engage the civil society in the

negotiation and development of these international instruments. This process could be very beneficial to influence agenda setting, problem definition, and awareness raising.

The inclusion of shorebird species listed by the agreements under the EPBC Act in Australia is a good example of incorporating these species into the decision-making process for development actions. As the bilateral agreements trigger the inclusion of species listed as migratory under the EPBC Act, this model of international policy adoption through domestic legislation could be mirrored in other countries.

4.3.1.2. Ramsar Convention

Challenges

The Ramsar convention has no mechanisms to impose sanctions on parties violating its provisions. This is perhaps a reflection of the "soft" nature of this convention, which has also precluded its use to pressure governments in the region. For instance, executive staff of its secretariat has, at least in one instance, opposed to approaches adopted by NGOs to enforce the convention because could be seen as intervening in national affairs.

There is limited capacity to assess whether countries have the potential to implement the convention properly. The secretariat of the convention is small and does not have enough resources to understand thoroughly the policy framework available in each country to comply with commitments under this treaty. This lack of capacity has precluded the possibility of identifying loopholes and policy gaps, which would be a useful first step in understanding barriers to implementation.

The designation of additional Ramsar sites in the flyway has been hindered by financial constraints and potentially conflicting land uses. The designation of Ramsar sites creates responsibilities to manage them, which can result in a financial burden to governments. This has deterred governments from nominating additional sites when funding is limited. Moreover, in some cases wetlands that have been nominated as Ramsar sites have not been designated due to other political aspirations over land use. For instance, the designation of a Ramsar site in Yalu Jiang, China, was not supported by the local government due to a proposed port development nearby.

The designation of Ramsar sites in Australia follows a stringent process that can be a slow process. Requirements for Ramsar site designation in Australia are comprehensive and include Ramsar site documentation (e. g., Ramsar Information Sheet, Ecological Character Description, maps, written boundary description, and Ramsar site management plan), as well as the agreement of the site manager or landowner, relevant state or territory government, and the Australian Government. Hence, Ramsar site nomination in Australia can take a number of years as thorough background research is compulsory and agreements must be reached between multiple stakeholders.

There is no strong mechanism for wetland conservation outside protected areas in China. The designation of Ramsar sites is only allowed in sites that have already a protected area status. So, Ramsar designation raises awareness of these sites further, fosters their management, but does not trigger the creation of new protected areas encompassing wetlands. Furthermore, the condition of some Ramsar sites is undermined by mismanagement that results in illegal extractive activities. Wetlands that have not been designated as protected areas have had little opportunity to be protected from development, and local governments are not usually willing to establish protected areas that limit potential future options over land use.

Ramsar implementation in the Republic of Korea is rather a paradox. Uniquely, this country has specifically enacted a piece of legislation for the implementation of this convention, the Wetland Conservation Act 1999. However, the effective implementation of this treaty in the Republic of Korea, despite the existence of such a legislative instrument, has been hampered by conflicting domestic policies and lack of synergy and coherence with ancillary policy instruments. The persistence of the Public Waters Reclamation Act has allowed coastal reclamation to continue through the privatisation of publicly owned coastal wetlands. Furthermore, other key instruments, such as the Environmental Impact Assessment Act, allow a loophole for development as only reclamation projects over 30,000 m^2 triggers an assessment of environmental impact (Kim 2011). Furthermore, small reclamation projects (10,000 m^2) can be approved by local and provincial governments without oversight by the central government.

Statements by the Republic of Korea to halt coastal wetland reclamation have been unkept. If true the government of this country announced that no more large-scale reclamation projects would take place (Ramsar Resolution X.22 Paragraph 22), there was no guarantee that the remaining coastal wetlands would be protected. Furthermore, a seeming loophole has allowed the division of large-scale reclamation projects into smaller projects to allow them to proceed.

The designation of wetlands as conservation areas under the Wetland Conservation Act in the Republic of Korea requires baseline data that is not always readily collected. Gathering field data for sites that have plans to be reclaimed is sometimes curtailed as developers restrict site access, sometimes on grounds of OH&S policies. It seems that such a situation could be somehow related to hampering data collection which could potentially undermine the commercial development of wetlands. Additionally, in a few cases the collection of baseline data has been prevented on military lands with restricted access to the general public.

The current flaws of Ramsar implementation in the Republic of Korea have resulted in a bottom-up and confrontational approach to make it more effective. The process of public consultation does not seem to be clear enough, so that the civil society has been left with limited fora to engage government in environmental decision-making processes related to coastal wetlands. As government has failed to develop a more coherent policy framework for coastal wetland conservation, NGOs have increasingly played an important role in shaping decision-making and policy development (Kim 2000, Kim 2010). If true some environmental battles have been lost by NGOs, some of those defeats have helped to build momentum to influence additional decisions. For instance, the opposition by NGOs to the Seamangeum project, shaped the decision by the central government to stop the reclamation of the Geum estuary.

Opportunities

Despite these challenges, the Ramsar convention stands out perhaps as the most powerful and relevant convention for the conservation of migratory shorebirds within the flyway. Several traits of this convention may account for this, namely: i) the simple and clear nature of its provisions, ii) the relatively low political and economic cost of becoming a party, iii) the openness of the convention, which has allowed strong civil society participation, iv) its large membership, and v) its specific provisions related to migratory shorebird habitat conservation.

Within the flyway, some countries stand out prominently as key players of the convention. Australia, China, Japan, and the Republic of Korea are strong supporters of Ramsar, they have been enacting relevant domestic policies that align with the convention, and have financial resources to be mobilised internationally. Australia and USA have additionally strong technical capacity on wetland management that may also be transferred internationally through the convention and the civil

society. Additionally, the Ramsar convention has very strong community support in Japan, whereas in China the convention has a very strong support from the central government. Thailand is a country that is emerging as a key Ramsar player; it has recently increased the number of designated sites, amid increased support from the government. Therefore, there is an opportunity to foster the implementation of the convention within these countries, as well as to instigate through them further international collaboration by mobilising resources to, and building capacity in, other parties within the flyway.

Article 3.2 of the convention refers to the obligation that contracting parties must notify the secretariat about changes to the ecological character of Ramsar sites. Third parties can contact the secretariat directly to notify them about potential changes to ecological character, for example if the relevant government fails to do so. Under this article, contracting parties are required to revise the management of Ramsar sites whose ecological character has deteriorated. In any case, changes to the ecological character of Ramsar sites trigger a follow-up process by the secretariat, where the contracting party in question is required to produce a plan to address the relevant issues. The secretariat can be alerted about potential contraventions to the convention in many ways, including through anonymous correspondence or media outlets, such as newspapers. The secretariat is only permitted to engage national Ramsar administrative authorities directly to address issues related to the implementation of the convention within each contracting party. However, additional stakeholders, such as NGOs, routinely try to influence government responses through lobbying or attempting to mobilise public opinion.

When the ecological character of a Ramsar site has deteriorated, there is a mechanism available that can galvanise collaboration. The Montreux Record is a register of Ramsar sites in need of management actions to improve their condition, when detrimental changes to their ecological character have occurred or are likely to occur. Ramsar sites can be included in this record only if agreed by the corresponding contracting party. Thus, this record provides an opportunity to raise attention of sites in need of action, drawing resources, technical assistance, and influencing decision-making for their management by governments through international cooperation. Fundamental to this process is the Ramsar Advisory Mission, which is a technical assistance mechanism whose main aim is to support parties in solving issues that have triggered the inclusion of sites in the Montreux Record.

Despite the lack of sanctions to enforce this convention, there are a few mechanisms external to the convention that can help rectify pitfalls in its implementation through a system of awareness raising. One of them is the so-called “Blue Globe Award”, presented by the World Wetland Network at each conference of the parties. This award aims to recognise best practice of Ramsar wetland management and foster cooperation. By contrast, the second mechanism is the so-called “Grey Global Award”, which is also presented by the World Wetland Network at each conference of the parties. This award is an awareness raising mechanism to trigger action by governments when Ramsar sites have experienced deterioration of their conservation values.

The Ramsar convention can work as a mechanism to strengthen protected areas from a legal perspective in the Republic of Korea. National protected areas are generally robust to degazettement, whereas locally designated protected areas may be revoked rather easily if land use conflicts arise. However, if those protected areas have been designated as Ramsar sites, it becomes much more cumbersome for local governments to revoke them or change their boundaries. Ramsar recognition of wetlands brings international attention on specific sites, particularly if they are perceived to be in peril.

The Wetland Conservation Act, which implements the Ramsar convention in the Republic of Korea, provides a framework for wetland conservation as shorebird habitat. Under this act, wetland conservation areas could be designated either at national or provincial level if a particular wetland provides habitat for migratory or threatened animal species. Moreover, the act includes provisions for the designation of wetlands as areas to be restored, which acknowledges their deterioration and the opportunity to re-establish key ecological processes. However, wetlands can be targets of restoration efforts only if they have been designated as wetland conservation areas, and there is a danger of restoration being seen as an excuse to continue wetland reclamation (Kim 2011).

The existence of a National Wetland Review Committee in the Republic of Korea, with a broad membership representing multiple sectors constitutes an opportunity to influence policy. Having some level of representation at this committee would allow having access to the revision of the Fundamental Plan for Wetland Conservation. For instance, the second version of this policy document (2013-2017) aims to revise the entire Wetland Conservation Act, create a new monitoring system of national inland wetlands, upgrade the national wetland inventory, incorporate the precautionary principle into wetland management, systematise the wise use of wetlands with benefits to people, and improve the Wetland Restoration and Management System to build wetland resilience (Kim et al. 2013).

4.3.1.3. Convention on Migratory Species

Challenges

Membership of this convention remains low in the EAAF possibly due to a lack of understanding. The CMS has historically, and traditionally, been very strong in Europe and Africa, which may have constrained its internal capacity to reach out to countries in other regions more effectively. Under the CMS, countries have the option of becoming a party with reservations, which excludes species with potential conflict for exploitation. That has been the case of Norway, which is a pro-whaling country and a CMS party that held reservations on a number of cetacean species but has more recently removed many of these in the interest of cooperative relationships.

One difficulty for CMS implementation in Australia is coordination between stakeholders. Whilst the Australian Government's Department of the Environment is in charge of the national coordination of CMS implementation, the effective and proper delivery of specific prescriptions depends on many other stakeholders, including other government departments as well as civil society. Greater synergy and communication between all these stakeholders would be useful to ensure a more efficient and coherent implementation of CMS provisions.

Opportunities

Despite the low CMS membership within the flyway, this convention has provided an important framework for the conservation of particular species. Under the CMS, there are at least two instruments available to non-party range states for the conservation of migratory species, namely: i) Memorandum of Understanding, and ii) International Single Species Action Plan. Both of these instruments have been used in the flyway. For instance, there is a Memorandum of Understanding for the conservation of Siberian crane *Leucogeranus leucogeranus* and International Single Species Action Plans for the conservation of spoon-billed sandpiper *Calidris pygmeus*, Chinese crested tern *Thalasseus bernsteinil*, and black-faced spoonbill *Platalea minor*. These instruments provide a framework for cooperative research and conservation actions of the species in question, though they are not binding instruments.

The implementation of the CMS in Australia has been taken beyond the obligations of the convention. All CMS listed species, regardless of their appendix, are included under the EPBC Act as migratory species, which is a matter of national environmental significance. This arrangement confers the same level of protection across CMS appendices, which means that approval from the Australian Government Minister for the Environment is required for any action potentially impacting any of these species. The EPBC Act allows for the migratory species list to be changed if the listings under the CMS change at any time. Furthermore, Australia has played a key role internationally by mobilising resources voluntarily for the implementation of CMS resolutions.

At least two non-government organisations emerge as key players in CMS implementation within Australia. Humane Society International has been the main NGO supporting and promoting CMS implementation in Australia, which has included the development and implementation of instruments under the convention. Additionally, Wild Migration is another Australia-based International NGO working on capacity building to help wildlife ecologists and NGOs better understand this convention, the convention's agreements, and action plans to engage more effectively in its decision-making process.

4.3.1.4. Convention on Biological Diversity

Challenges

Perhaps the main challenge of this convention as a mechanism to drive migratory shorebird conservation is its implicit broad scope. This convention provides the framework to create stronger governance arrangements for biodiversity conservation and use; however, it lacks specific provisions for the conservation of migratory shorebirds.

Opportunities

The Aichi targets is a set of specific goals that most countries have agreed upon to halt biodiversity loss within the framework of the Convention on Biological Diversity. These targets are part of the Strategic Plan for Biodiversity 2011-2020 and CBD parties are bound to report on the implementation of specific actions towards the achievement of such targets. Amongst the 20 Aichi targets, at least four are directly relevant to migratory shorebird conservation, as follows:

Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Target 7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 11. By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

Target 12. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

The CBD has developed mechanisms to actively involve sub-national levels of government to assist implementation, including the Aichi targets. The key document to guide this process is the "Plan of Action on Sub-National Governments, Cities and other Local Authorities for Biodiversity (2011-

2020)" endorsed by the parties through decision X/22. This approach recognises the importance of engaging local governments in achieving CBD objectives, as many decisions affecting biodiversity take place at this level. This instrument has evolved to include local governments as key players in the achievement of the Aichi targets. This approach is particularly relevant to the Yellow Sea, where local governments have a very important stake in coastal management. For instance, China's National Biodiversity Strategy and Action Plan includes a commitment to support regional and local authorities to develop Sub-National Biodiversity Strategy and Action Plans.

4.3.2. Non-binding instruments

4.3.2.1. East Asian-Australasian Flyway Partnership

Challenges

The designation of sites as part of Flyway Site Network remains a challenge as a tool to trigger new conservation areas. Even though the recognition of a wetland as part of the Flyway Site Network does not have a legal framework, it creates an international expectation. As this network aims to protect and manage waterbird habitat, governments are wary about potential conflicting future land uses. Consequently, most wetlands listed in the Flyway Site Network have been already protected areas prior to listing.

Opportunities

Presence of international organisations in countries can be influential in achieving conservation outcomes, and the EAAFP is potentially filling such a niche. The Republic of Korea has traditionally lacked the presence of international conservation organisations with direct relevance to shorebird conservation. For instance, WWF-Korea was established recently and its focus is not specifically on biodiversity conservation actions. In this context, the presence of the EAAFP in the Republic of Korea has been important in influencing policy and decision-making domestically. This organisation has become unique as, perhaps, the only channel available through which NGOs can express scientifically objective rational arguments that are based on the vocabulary and understanding of the workings of the conventions to which the Republic of Korea is bound.

The non-binding condition of the EAAFP creates a flexible framework that would not be possible through a binding arrangement. As the membership of this agreement is more flexible, corporate partners can participate, potentially mobilising resources. As this agreement is voluntary, there are fewer barriers to entry and membership has been growing over time. Additionally, as this agreement is more flexible, decision-making does not require the same level of domestic administrative processes and allows for champions within government to take the lead, potentially resulting in more conservation actions being delivered on the ground.

The EAAFP shifted the conservation approach within the flyway from being species-based to habitat-based. Previous to the EAAFP, the Asia-Pacific Waterbird Conservation Strategy was more focused on separate avian taxa, which precluded harnessing the full potential of synergies. Having a habitat-based approach to waterbird conservation creates a framework with an agenda where conservation scientists, practitioners, and advocates converge. This new strategy adopted by the EAAFP allows for more synthesis, efficiency, and synergy to conserve multiple avian taxa, through the management of habitats that are shared by multiple species.

The Flyway Site Network can work as a mechanism to strengthen protected areas from a legal perspective in the Republic of Korea. Protected areas that are also designated as part of the Flyway Site Network are perhaps more robust against downsizing or degazettement. National protected

areas are difficult to be degazetted, whereas protected areas at local level may be revoked more easily if land use conflicts arise. However, if those protected areas have been designated as part of the Flyway Site Network, it becomes much more cumbersome for government to revoke them or change their boundaries. Flyway Site Network recognition of wetlands brings attention and pressure that governments seem to respond to.

4.4. Systemic issues

Through the stakeholder interviews, several issues were identified and have been compiled including explicitly to which country they apply (Table 12). They are considered as systemic issues because they emerge across different policy processes, as well as through multiple international instruments. These issues could undermine the effectiveness of the policy instruments that have been developed internationally within the flyway to conserve migratory shorebirds. In cases where an issue applies to more than one country, individual weight of importance is not provided as the measure would be qualitative or too subjective. However, issues clearly have different prevalence in each country. Results presented here are mostly qualitative and descriptive.

Issue	Country
The science underpinning decisions affecting migratory shorebird conservation has not always been transparent and independent, and it has, at least sometimes, been used to legitimise political decisions by governments. This has included cases where government affiliated research institutes are involved in the decision-making process, as well as where consultants are hired by action proponents to support required approvals by governments, such as Environmental Impact Assessments and Cost Benefit Analysis. For instance, raw data from research supporting decisions are not always available, and sometimes final reports are not even made public.	Australia, China, and Republic of Korea
A general view across the board is the subordinate nature of environmental legislation and agencies. When environmental policy conflicts with policies or decisions for economic development, the latter usually prevails. This has included not only the rationale to make decisions nationally, but also internationally. When countries consider the international relations portfolio, environmental agreements receive less importance and are usually perceived as a liability that may have trade-offs with key national interests in the international sphere.	Australia, China, and Republic of Korea
It seems that participation in international conventions is part of governments' agendas to legitimise their power internationally and nationally, as well as to raise the profile of their countries in the global stage. The pitfall in this rationale is that international obligations are not always adopted thoroughly through domestic policies and institutions. Countries have become active players in the international environmental governance realm, which has even resulted in the enactment of domestic policies to implement some of those commitments. However, the actual implementation on the ground of those policies has been sometimes ineffective due to the lack of more significant structural reforms.	Australia, China, and Republic of Korea
The scientific community related to shorebird conservation in the flyway has been increasing tremendously in capacity; however, there seems to be some deficiencies to more effectively reach out governments and the general public. Some scientists recognise their own need, as well as the need of other researchers, to improve their understanding of what drives policy development and decision making, as well as the access to the structures and mechanisms to influence governments. Additionally, researchers sometimes adopt a too technical language that impedes effective communication with the general public, as well as too narrow in scope to engage government.	Australia, China, and Republic of Korea
Despite the existence of a policy framework underpinned by science for wetland and migratory shorebird conservation, both across the flyway and domestically in the countries considered in this report, decisions are sometimes political. Science has played a key role in unveiling the process driving the population declines of shorebirds, understanding the ecology of the species in question, identifying the key areas for conservation, and assessing the conservation status of species, however, when it comes to the decision-making process, a political discourse labelled by "national interests" has sometimes overridden environmental protection interests.	Australia, China, and Republic of Korea
The implementation of international conventions has been selective in some instances. There is evidence, though not robust, that governments have tended to primarily implement the "soft" provisions of the conventions, those that do not bear a high political and economic cost. For instance, countries have been active in delivering CEPA activities, in promoting and supporting research, in engaging NGOs mostly at low and mid levels within the governments' hierarchies, however, when it comes to provisions that do really involve compromising well-established economic policies and aspirations, governments have usually implemented the conventions poorly.	Australia, China, and Republic of Korea
The political decisions that have driven habitat loss for migratory shorebirds have not been underpinned by the precautionary principle. Several species have declined sharply in the flyway, and despite the lack of absolute certainty about the cause of that process, governments have been making decisions over land use that are most likely detrimental to shorebirds. If the precautionary principle had been applied, many decisions on development projects would not have been approved, because there is a risk of irreversible consequences as some species are being pushed to the brink of extinction.	Australia, China, and Republic of Korea
Bilateral agreements are not sufficient as mechanisms for actual shorebird conservation on the ground. These cross-boundary arrangements fail not only by not including all, or at least most, range states of the species of concern, but they lack full transparency and accountability. This condition seems to be an intrinsic characteristic of bilateral negotiations, where the negotiation process takes place between governments and only select external stakeholders may be invited to attend the bilateral negotiations partially. Additionally, the diplomacy in Asia precludes any formal	Australia, China, and Republic of Korea

Issue	Country
public complaints between countries in this realm, which has rendered these arrangements as agreements on cooperation.	
There is a lag effect between the accession to international treaties by individual countries and the development of domestic policies for implementation.	Australia, China, and Republic of Korea
Many coastal reclamation projects neither involve civil society from the beginning of the decision-making process nor engage it transparently enough, which make very difficult to work with developers to retrofit projects for impact mitigation.	China and Republic of Korea
Turf disputes between government and NGOs in the past, as a result of competing interests for funding and influence, may have undermined the potential to have reached more robust governance arrangements for migratory shorebird conservation in the flyway.	Australia
High turnover of government officials has hindered the establishment of strong long-lasting relationships with key staff that may champion particular agenda items within government.	Republic of Korea
The local governments have robust power, which makes coordinated action through central government policies difficult.	China
Opportunities for civil society participation in governmental environmental decision-making processes may be limited. This situation has been improving over the years, but there is still a way to go. This situation is perhaps a combination of top-down and bottom-up issues. On the one hand, the government may not provide strong channels of engagement, whereas on the other hand, the civil society may lack institutional capacity to engage government more effectively.	China

Table 11. Systemic problems identified through the stakeholder interviews in Australia, China, and the Republic of Korea.

4.5. Participant suggestions

Through the stakeholder interviews, recommendations were sought explicitly, as well as collected implicitly through the enquiry process. As with the previous section, recommendations presented here are general and are not exclusively relevant to a particular international policy instrument, they rather offer ideas that may be applicable across multiple policies and contexts. The following set of recommendations was compiled entirely from the comments of interviewees and does not include or necessarily reflect the views of the author of this report:

1. Whereas formal rules are important to advance conservation, policy development is usually a slow process. It is thus recommended that the conservation agenda combines policy advocacy, but also actual work on the ground using a bottom-up approach through local governments and grassroots.

2. Public opinion plays a key role in policy development and decision-making, so the use of mass media is strongly encouraged to advance the conservation agenda.

3. Reaching consensus on key research findings related to migratory shorebird conservation should be a priority. Scholarly discussion about scientific uncertainty should be kept within research circles and consensus should be used for policy advocacy across the flyway. Open scholarly discussion may undermine conservation as it may create a political opportunity for governments to dismiss the science.

4. It is recommended to empower governments at different levels by recognising widely and publicly those cases where governments have made important decisions for conservation.

5. Whilst it is important to highlight the severity of environmental issues faced by migratory shorebirds in the EAAF, overemphasis on this could result in donor fatigue. Donors, either governments, NGOs or the corporate sector, invest funds in conservation expecting a gain. However, if apparent failure is recurrent, donors may lose interest and withdraw their support. Therefore, there is a need to publicise the successful outcomes, as much as the challenges.

6. Strong international pressure on Asian governments from the NGO community in Australia could potentially lead to key governments withdrawing from further international engagements and becoming less open to international participation in relation to shorebird conservation.

7. Stronger international research partnerships between Australia and government-affiliated research institutions in China and the Republic of Korea could help inform government decisions and policies.

8. Advocacy for the establishment of protected areas along the coast of the Yellow Sea should include areas designated without a strict conservation category. Protected areas that are strictly managed for conservation may not be backed by coastal communities that rely heavily on fishing, which may weaken the opportunity to have multi-zoned protected areas that ultimately protect intertidal mudflats.

9. Policy in China could potentially be informed through the China Council for International Cooperation on Environmental Development. This is a high level non-for-profit advisory body with international membership composed of experts who conduct policy analysis to make recommendations to the Chinese government at all levels. This council has several task forces, which work on specific policy issues for two years after which policy recommendations are made to the Chinese government. Therefore, this body could be a potential driver for policy reform and development by means of recommending a task force on coastal management and reclamation.

10. It is very important to look for coalitions, other stakeholders with similar interests to those of the shorebird conservation advocates, so that a commonly shared coastal management agenda can be progressed through higher-level fora.

11. There are several international fora and agreements involving range states within the flyway that could be considered as ancillary to the international policy framework already described (Appendix 3). Some of them are closely related to shorebird conservation, whereas others are broader and may be related to trade, which can actually be linked to threats to biodiversity. Most of those mechanisms could be useful to foster international cooperation, capacity building, resource mobilisation, policy advocacy, awareness raising at a higher political level, and streamline biodiversity conservation into economic development.

12. Market-based approaches could potentially be used to curb mudflat reclamation. Most reclamation projects in the Republic of Korea and China are financed by governments at different levels. Reclamation projects are proposed and executed with an expected financial return based on predictions of investment by companies. Hence, a possible strategy could be based on discouraging investment in those areas, which would render them unprofitable. Engaging large corporations to publicly announce their withdrawal from, or disapproval of, plans to invest in those areas may turn the market down for future investors, as other companies may see reclaimed areas as a liability based on their reputation.

13. Halting coastal reclamation may be achieved through persuasion of government at various levels to align performance criteria with coastal wetland conservation objectives in China. The top-down system of performance management established in the Chinese political system has been primarily focused on economic growth targets. However, there has been a recent intention to move away from this criterion, so that other metrics, including environmental variables, are also considered. Therefore, it is important to further explore this new set of criteria, so that the environmental criteria reflect coastal wetland conservation outcomes.

14. Further engagement with local governments may be instrumental to slow down coastal reclamation in the Yellow Sea. This level of government has become increasingly interested in taking actions to conserve biodiversity in China, which has included coastal wetlands. So, considering the high level of autonomy these governments have, it is important to ensure conservation advocates liaise with them to guide decision-making processes driving coastal wetland conservation actions.

5. Conclusions

The international policy framework for the conservation of migratory shorebirds in the East Asian-Australasian Flyway has developed into a "regime complex". This concept has received different definitions by different authors; however, all of them coincide on the identification of a network of international policy instruments in a particular issue area that interact with one another to different degrees and result in different arrangements (Keohane and Victor 2010, Kim 2013, Orsini et al. 2013). In the East Asian-Australasian Flyway an array of international policy instruments have emerged, each having different focus and geographic scope. For instance, the Ramsar convention covers most of the flyway and is concerned with wetland management, whereas the Bilateral Migratory Bird Agreements adopt a more specific focus on species conservation and only involve seven countries.

The development of a regime complex within this flyway could be considered to be a consequence of contingencies, tensions between different parties, and shared interests between them. For example, the cold war precluded international participation by Russia in waterbird conservation in the flyway for many years. As a result, the Bilateral Migratory Bird Agreement signed between the Republic of Korea and Russia was only possible after the end of it. Likewise, shared interests between subsets of parties have resulted in clubs. For instance, Japan and Russia have signed a Bilateral Migratory Bird Agreement which has been greatly underpinned by migratory cranes shared by both countries (Boardman 2006).

The development of regime complexes tend to move towards integration and coherence (Morin and Orsini 2013), and the history of the EAAF attests to this. For example, bilateral meetings have been integrated into single fora. Furthermore, some principles of the Ramsar convention underpin the East Asian-Australasian Flyway Partnership through the designation criteria for the Flyway Site Network. At a national level, this process also results in greater policy coherence and integration. This has been particularly evident in Australia, where the EPBC Act has mainstreamed shorebird conservation by integrating multiple international agreements, such as Ramsar, the CMS, and the Bilateral Migratory Bird Agreements into a single piece of domestic legislation.

Nevertheless, despite the emergence of such an international regime complex migratory shorebird populations have continued to decline in this flyway (e. g., Nebel et al. 2008, Amano et al. 2010, Wilson et al. 2011). This may seem conflicting when considering the provisions and spatial configuration of the international policy framework. Indeed, in combination all relevant international policy instruments in the flyway have prescriptions to address key threats to shorebirds, namely habitat loss (e. g., Murray et al. 2014) and hunting (e. g., Zöckler et al. 2010); and geographically, they include range states with important areas in the non-breeding, breeding, and migratory staging grounds. Possible explanations for this apparent incongruence include: i) lag effects of conservation actions, ii) the slow development of required institutional arrangements, iii) gaps in domestic policy for implementation of international commitments, iv) conflict between policies for the environment and other realms, and v) flaws in domestic policy implementation on the ground.

In spite of the existence of challenges, the current international regime complex has been instrumental in advancing migratory shorebird conservation in the EAAF. The emergence of this regime complex has been important because it has enabled: i) the development of a social construct for collective action through international governance arrangements, ii) the enactment of domestic policies to implement international obligations, iii) the prescription and execution of specific actions on the ground, iv) the expansion and application of scientific knowledge, v) resource mobilisation, vi) capacity building, vii) information sharing, and viii) coordination between national governments and institutions. However, these results should be considered as preliminary, as further research is warranted. The future of migratory shorebirds in the EAAF depends on continued improvement in this international regime, and its robust implementation on the ground.

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Appendix 1. List of parties to multilateral environmental agreements relevant to migratory shorebird conservation within the East Asian-Australasian Flyway.

Country/Agreement	EAAFP[1]	CBD[2]	Ramsar[3]	CMS[4]
Australia	yes	yes	yes	yes
Bangladesh	yes	yes	yes	yes
Brunei	no	yes	no	no
Cambodia	yes	yes	yes	no
China	yes	yes	yes	no
Indonesia	yes	yes	yes	no
Japan	yes	yes	yes	no
Laos	no	yes	yes	no
Malaysia	yes	yes	yes	no
Mongolia	yes	yes	yes	yes
Myanmar	yes	yes	yes	no
New Zealand	yes	yes	yes	yes
North Korea	no	yes	no	no
Papua New Guinea	no	yes	yes	no
Philippines	yes	yes	yes	yes
Republic of Korea	yes	yes	yes	no
Russia	yes	yes	yes	no
Singapore	yes	yes	no	no
Thailand	yes	yes	yes	no
Timor Leste	no	yes	no	no
USA	yes	no	yes	no
Vietnam	yes	yes	yes	no
Total (contracting parties)	17	21	18	5

[1]East Asian-Australasian Flyway Partnership
[2]Convention on Biological Diversity
[3]Ramsar Convention on Wetlands
[4]Convention on Migratory Species

Appendix 2. Species included in appendix-based international environmental agreements within the East Asian-Australasian Flyway (species are presented alphabetically by common name for easier reference).

Common Name	Scientific Name	International Environmental Agreement*											
		CMS[1]	C-A[2]	J-A[2]	ROK-A[2]	USA-J[2]	USA-R[2]	C-J[2]	ROK-R[2]	C-R[2]	R-DPRK[2, 3]	ROK-C[2, 3]	R-J[2, 3]
American Golden Plover	*Pluvialis dominica*	A2H	1	0	0	1	1	1	1	0	unkn	unkn	unkn
Asian Dowitcher	*Limnodromus semipalmatus*	A2H	1	1	1	0	0	1	0	1	unkn	unkn	unkn
Baird's Sandpiper	*Calidris bairdii*	0	0	1	0	1	1	0	0	0	unkn	unkn	unkn
Bar-tailed Godwit	*Limosa lapponica*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Black-tailed Godwit	*Limosa limosa*	A2H	1	1	1	0	1	1	1	1	unkn	unkn	unkn
Black-winged Stilt	*Himantopus himantopus*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Bristle-thighed Curlew	*Numenius tahitiensis*	0	0	0	0	1	0	0	0	0	unkn	unkn	unkn
Broad-billed Sandpiper	*Limicola falcinellus*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Buff-breasted Sandpiper	*Tryngites subruficollis*	0	0	1	1	1	1	0	0	0	unkn	unkn	unkn
Caspian Plover	*Charadrius asiaticus*	0	1	0	0	0	0	1	0	1	unkn	unkn	unkn
Common Greenshank	*Tringa nebularia*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Common Sandpiper	*Actitis hypoleucos*	A2H	1	1	1	1	1	1	0	1	unkn	unkn	unkn
Common Snipe	*Gallinago gallinago*	0	0	0	0	1	1	1	1	1	unkn	unkn	unkn
Curlew Sandpiper	*Calidris ferruginea*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Double-banded Plover	*Charadrius bicinctus*	A2H	0	0	0	0	0	0	0	0	unkn	unkn	unkn
Dunlin	*Calidris alpina*	0	1	0	1	1	1	1	1	1	unkn	unkn	unkn
Eastern Curlew	*Numenius madagascariensis*	A1	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Eskimo Curlew	*Numenius borealis*	0	0	0	0	1	0	0	0	0	unkn	unkn	unkn
Eurasian Curlew	*Numenius arquata*	A2H	1	0	0	0	0	1	1	1	unkn	unkn	unkn
Eurasian Dotterel	*Eudromias morinellus*	0	0	0	0	1	1	0	0	0	unkn	unkn	unkn
Eurasian Oystercatcher	*Haematopus ostralegus*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Eurasian Woodcock	*Scolopax rusticola*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Great Knot	*Calidris tenuirostris*	A2H	1	1	1	1	1	1	1	1	Unkn	unkn	unkn
Greater Painted Snipe	*Rostratula benghalensis*	0	1	0	0	0	0	1	1	0	Unkn	unkn	unkn
Greater Sand Plover	*Charadrius leschenaultii*	A2H	1	1	1	1	0	1	0	1	Unkn	unkn	unkn

Common Name	Scientific Name	International Environmental Agreement*											
		CMS[1]	C-A[2]	J-A[2]	ROK-A[2]	USA-J[2]	USA-R[2]	C-J[2]	ROK-R[2]	C-R[2]	R-DPRK[2, 3]	ROK-C[2, 3]	R-J[2, 3]
Greater Yellowlegs	*Tringa melanoleuca*	0	0	0	0	1	0	0	0	0	unkn	unkn	unkn
Green Sandpiper	*Tringa ochropus*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Grey Plover	*Pluvialis squatarola*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Grey-tailed Tattler	*Tringa brevipes*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Jack Snipe	*Lymnocryptes minimus*	0	0	0	0	1	1	1	1	1	unkn	unkn	unkn
Kentish Plover	*Charadrius alexandrinus*	0	0	0	0	1	0	1	1	1	unkn	unkn	unkn
Latham's Snipe	*Gallinago hardwickii*	A2H	1	1	1	1	0	0	1	1	unkn	unkn	unkn
Least Sandpiper	*Calidris minutilla*	0	0	0	0	1	1	1	1	0	unkn	unkn	unkn
Lesser Sand Plover	*Charadrius mongolus*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Little Curlew	*Numenius minutus*	A2H	1	1	1	1	0	1	0	1	unkn	unkn	unkn
Little Ringed Plover	*Charadrius dubius*	0	1	0	1	1	1	1	1	1	unkn	unkn	unkn
Little Stint	*Calidris minuta*	0	0	0	1	0	0	0	0	1	unkn	unkn	unkn
Long-billed Dowitcher	*Limnodromus scolopaceus*	0	0	0	0	1	1	0	0	0	unkn	unkn	unkn
Long-billed Ringed Plover	*Charadrius placidus*	0	0	0	0	0	0	0	1	1	unkn	unkn	unkn
Long-toed Stint	*Calidris subminuta*	A2H	1	1	1	1	1	1	0	1	unkn	unkn	unkn
Marsh Sandpiper	*Tringa stagnatilis*	A2H	1	1	1	0	1	1	1	1	unkn	unkn	unkn
Oriental Plover	*Charadrius veredus*	A2H	0	1	1	0	0	0	0	1	unkn	unkn	unkn
Oriental Pratincole	*Glareola maldivarum*	0	1	1	1	0	0	1	1	1	unkn	unkn	unkn
Pacific Golden Plover	*Pluvialis fulva*	A2H	1	1	1	0	0	1	1	1	unkn	unkn	unkn
Pectoral Sandpiper	*Calidris melanotos*	A2H	0	1	1	1	1	0	0	1	unkn	unkn	unkn
Pied Avocet	*Recurvirostra avosetta*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Pin-tailed Snipe	*Gallinago stenura*	A2H	1	1	1	0	1	1	1	1	unkn	unkn	unkn
Red Knot	*Calidris canutus*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Red Phalarope	*Phalaropus fulicarius*	0	1	1	0	1	1	1	0	0	unkn	unkn	unkn
Red-necked Phalarope	*Phalaropus lobatus*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Red-necked Stint	*Calidris ruficollis*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Redshank	*Tringa totanus*	A2H	1	0	1	0	0	1	1	1	unkn	unkn	unkn
Ringed Plover	*Charadrius hiaticula*	0	1	1	1	1	0	1	1	1	unkn	unkn	unkn

Common Name	Scientific Name	International Environmental Agreement*											
		CMS[1]	C-A[2]	J-A[2]	ROK-A[2]	USA-J[2]	USA-R[2]	C-J[2]	ROK-R[2]	C-R[2]	R-DPRK[2, 3]	ROK-C[2, 3]	R-J[2, 3]
Rock Sandpiper	*Calidris ptilocnemis*	0	0	0	0	0	1	0	0	0	unkn	unkn	unkn
Ruddy Turnstone	*Arenaria interpres*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Ruff	*Calidris pugnax*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Sanderling	*Calidris alba*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Semipalmated Plover	*Charadrius semipalmatus*	0	0	0	0	0	1	0	0	0	unkn	unkn	unkn
Sharp-tailed Sandpiper	*Calidris acuminata*	A2H	1	1	1	0	0	1	1	1	unkn	unkn	unkn
Solitary Snipe	*Gallinago solitaria*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Spoon-billed Sandpiper	*Calidris pygmeus*	0	0	0	0	1	1	1	1	1	unkn	unkn	unkn
Spotted Greenshank	*Tringa guttifer*	0	0	0	0	0	0	1	1	1	unkn	unkn	unkn
Spotted Redshank	*Tringa erythropus*	0	0	0	0	1	1	1	1	1	unkn	unkn	unkn
Swinhoe's Snipe	*Gallinago megala*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Temminck's Sanpiper	*Calidris temminckii*	0	0	0	0	1	1	1	1	1	unkn	unkn	unkn
Terek Sandpiper	*Xenus cinereus*	A2H	1	1	1	0	1	1	1	1	unkn	unkn	unkn
Wandering Tattler	*Tringa incana*	A2H	1	1	0	1	1	0	0	0	unkn	unkn	unkn
Western Sandpiper	*Calidris mauri*	0	0	1	0	0	1	0	0	0	unkn	unkn	unkn
Whimbrel	*Numenius phaeopus*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn
Wilson's Phalarope	*Phalaropus tricolor*	0	0	0	0	0	1	0	0	0	unkn	unkn	unkn
Wood Sandpiper	*Tringa glareola*	A2H	1	1	1	1	1	1	1	1	unkn	unkn	unkn

*Legend:

[1]Convention on Migratory Species

[2]Bilateral Migratory Bird Agreement: A (Australia); C (People's Republic of China); DPRK (Democratic People's Republic of Korea); J (Japan); R (Russian Federation); ROK (Republic of Korea); USA (United States of America).

[3]Species appendix not available.

Appendix 3. Ancillary policy instruments relevant to conservation of migratory shorebirds within the East Asian-Australasian Flyway.

In addition to the international policy framework identified in section 4.1., an array of additional instruments play a role in the conservation of migratory shorebirds and could also be used to advance the conservation agenda of migratory shorebirds in the EAAF. These instruments include fora, as well as binding and non-binding agreements. The list compiled includes instruments directly related to conservation, as well as instruments that are unrelated but are relevant as they can potentially be used to streamline shorebird conservation through integration into broader policies.

Agreement/Forum	Countries involved	Main focus
Agreement on Cooperation in the Field of Environmental Protection	Republic of Korea and Japan	Environmental protection through exchange of research and policies, as well as implementation of joint research projects.
Protocol on Conservation of Nature	USA and China	Wildlife conservation through joint research projects, public outreach, and on-ground actions.
Cooperation in Conservation of Wildlife and Wildlife Habitat	Russia and USA	Wildlife conservation through joint research projects, capacity building, public outreach, and resource mobilisation. The Russia-USA Bilateral Migratory Bird Agreement has been implemented through this cooperation framework.
Bilateral Environmental Policy Dialogue	Japan and Mongolia	Exchange information and discussion of cooperation in the field of environment, including climate change, protected areas, and ecotourism.
Memorandum of Understanding on Environmental Cooperation	Japan and Indonesia	Facilitate and develop cooperation on environmental matters mutually agreed.
Environmental Conservation Cooperation Agreement	Japan and China	Promote policy dialogue on environmental issues, including issues such as acid rain and biodiversity conservation.
ASEAN +3 Environment Ministers Meeting	Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Japan, China, and the Republic of Korea	Cooperation on various regional environmental matters, including biodiversity conservation. This forum is a ministerial level meeting, which could provide the venue to raise the profile of some issues at a higher political level.
East Asia Summit	Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Japan, China, the Republic of Korea, India, Australia, New Zealand, USA, and Russia.	Dialogue at a high political level (head of states) on strategies and cooperation to manage key challenges commonly faced within the Asia-Pacific region. This is a key meeting, as environmental matters are included within its agenda and have the potential to gain political traction at a high level. For instance, the East Asia Summit Environment Ministers Meeting is a regular meeting that emerged from this very summit.
East Asia Summit Environment Ministers Meeting	Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam, Japan, China, the Republic of Korea, India, Australia, New Zealand, USA, and Russia.	This is perhaps the most comprehensive multilateral environmental forum in terms of membership of range state within the flyway. Therefore, this venue could potentially provide an opportunity to gain political traction at a higher level across multiple countries.
Asia-Pacific Forum for Environment and Development	Non-governmental but it does include representatives from countries within the EAAF, such as Australia, Thailand, Japan, China	Discussing and proposing policy alternatives for sustainable development through expert advice.
The Tripartite Environment Ministers Meeting	Japan, China, and the Republic of Korea	Fostering international cooperation at ministerial level through awareness raising, information exchange, research, pursuing protection of the marine environment in order to address global environmental issues, such as biodiversity loss.
APEC	Australia, Brunei, Canada, Chile, China, Indonesia, Japan, Republic of Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Thailand, Taiwan, USA, and Vietnam.	Support sustainable economic growth in the Asia-Pacific Region. This forum promotes the integration of economy within the region. It has several groups, including one on sustainable development, which creates a potential mechanism to raise awareness of key issues across different sectors.

ASEAN	Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.	This is a binding international agreement to foster regional integration through sustainable development, social progress, cultural development, and stability. The ASEAN summit deliberates, provides policy guidance, and makes decisions according to the objectives of ASEAN. The summit is informed by different stakeholders, including a Ministerial Sectoral Body on the Environment.

East Asian-Australasian Flyway Partnership

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