CONVENTION ON WETLANDS (Ramsar, Iran, 1971) 51st Meeting of the Standing Committee Gland, Switzerland, 23-27 November 2015

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Summary of the Meeting of an expert group on indicators for the Ramsar Strategic Plan (2016-2024)

18 September 2015, Geneva, Switzerland

Introduction and rationale for the meeting

COP12 Resolution XII.2, The Ramsar Strategic Plan 2016-2024, requested the Ramsar Secretariat to:

[C]onvene, initially, a small, regionally representative expert group back-to-back with the meeting of the <u>CBD's Ad Hoc Technical Expert Group on Indicators (AHTEG)</u>[for the Strategic Plan for Biodiversity (2011-2020)] in Switzerland ..., including interested Contracting Parties, expert support from the STRP [Scientific and Technical Review Panel], IOPs [International Organization Partners] and other relevant MEAs [Multilateral Environmental Agreements] and international processes to develop options, for additional indicators for the Strategic Plan having regard in particular to:

- previous Resolutions of the Conference of the Parties related to indicators, including Resolution IX.1;
- the need for indicators to address outcomes and effectiveness and to be capable of practical implementation;
- the need to minimise cost of indicator implementation by using existing data and information flows, including through national reporting and reporting on Ramsar Sites;

The Resolution also requested the expert group to report on possible indicators to the Standing Committee which will then refine or develop them and present them to COP13 for approval.

Accordingly, on 18 September 2015, the Ramsar Secretariat convened a small group of experts, including regional participants of the AHTEG meeting, representatives of Contracting Parties' Missions to the UN in Geneva and UN-related organizations, as well as of other MEAs, for a total of 28 participants, including Secretariat staff. See Annex II for the full list of participants.

Participants discussed the revision and/or possible development of potential indicators for the 4th Ramsar Strategic Plan (SP4), where expressly indicated in the text of the Strategic Plan, and are summarized below (see Annex I).

The Secretariat thanks all participants for their contributions and support to this meeting.

Next Steps

As stated in Resolution XII.2, COP12 decided to undertake a review of the 4th Ramsar Strategic Plan

at COP14 and to establish the modalities and scope for this review at COP13 taking into account *inter alia* the outcomes of the discussions of the Post-2015 Sustainable Development agenda and Sustainable Development Goals, the work of IPBES and the coordination needs with regard to the review of the Strategic Plan for Biodiversity 2011-2020. For this purpose also the contributions of the expert group on possible indicators will be considered to refine the potential indicators and present the proposal to COP13 for approval.

Annex I

Options for possible indicators for the Ramsar Strategic Plan 2016-2024 with Goals, Targets and relevant baselines Working session inputs (Agenda Item 6)

Note: The Ramsar Secretariat prepared the table below based on the contribution of David Stroud (DS), STRP Invited Expert 2013-2015, and participants to the meeting.

No	Targets	Indicator(s) and Baselines	Aichi Target	SDG x-references	Possible indicator development	Possible indicator development / Comments: Indicators Expert Group		
Goal	oal 1: Addressing the drivers of wetland loss and degradation							
1	Wetland benefits are featured in national/ local policy strategies and plans relating to key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture, fisheries at the national and local level	 Baseline 19% of Parties have made assessment of ecosystem services of Ramsar Sites. (National Reports to COP12¹). 70% of Parties have included wetland issues within national strategies and planning processes such as water resource management and water efficiency plans. (National Reports to COP12). 47% of Contracting Parties have included wetland issues within National Policies or measures on agriculture. (National Reports to COP12). Indicators % of Parties that have made assessment of ecosystem services of Ramsar Sites. (Data source: National Reports). % of Parties that have included wetland issues within national strategies and planning processes such as water resource management and water efficiency plans. (Data source: National Reports). 	2	 15.9 by 2020, integrate ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies, and accounts 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships 	Sectoral information not addressed by existing indicators but anyway inherently impossible to collect/collate even at national level (DS). STRP Ecological Outcome Indicator L – Wise use policy (in fact this has not been developed) Further options and sources of information needed			

 $^{^{1}}$ Information based on 131 National Reports received to COP 12. SC51-Inf.Doc.05

		% of Parties that have included wetland issues within National Policies or measures on agriculture. (Data source: National Reports).				
2 Water respectively wetlar ecosys needs to fulf function provid service approp scale i at the level of coasta	er use ects and ystem s for them Ifil their cions and ide ces at the opriate inter alia e basin or along a tal zone.	Baseline 70% of Parties have included wetland issues into national strategies and planning processes such as water resource management and water efficiency plans. (National Reports to COP12). Indicators % of Parties that have included wetland issues into national strategies and in the planning processes such as for water resource management and water efficiency plans. (Data source: National Reports).	7, 8	 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate. 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 	Possible link to whatever SDG indicator is developed? SOWWS: Possible links to TEEB? Possible direct link to outcome of the Transboundary Waters Assessment Programme (TWAP) River Basins Assessment STRP Ecological Outcome Indicator C – Water-related Indicator (s). Trends in water quality (Trends in dissolved nitrate or nitrogen) concentration and in Biological Oxygen Demand (BOD). Status of Current data from UNEP GEMS Water Programme other regional assessments. STRP Ecological Outcome Indicator J – The economic costs of unwanted floods and droughts (has not been developed). Other sources available: WMO. STRP Ecological Outcome Indicator R – Plans affecting wetlands that are positively modified in the light of an impact assessment (Initial proposal, has not been developed).	

					STRP Ecological Outcomes Indicator S. The proportion of current wetland uses that are considered sustainable or "wise" use (Initial proposal has not been developed)	
		Possible further indicators that may be developed {% of Ramsar sites which have improved the sustainability of water use in the context of ecosystem requirements}			It will be realistically impossible to develop a responsive assessment across the Ramsar List (to express as a proportion of the whole). Maybe the best way to go is to seek the identification of those individual sites where there has been improved sustainability of water use, and express this as a total. But would need baseline. (DS) Possible option use Mexican experience to develop priority case studies under Ramsar Resolution XII. 12 Call to action to ensure and protect the water requirements of wetlands for the present and the future. Other options further sources of information.	 Suggested language: % of CPs that conducted a water assessment How many included assessment in plans/policies (Lifeng Li WWF-International). Comments: There is an indicator produced for the BIP on Water Quality. This should be linked with SGD Target 6.4, 6.5 and 6.6. A number of Parties have already reported on such policies applied to specific sites. This should be looked at. But how many Parties have conducted a specific assessment? How many Parties have included water requirements into national policies?
3	The public and private sectors have increased their efforts to apply guidelines and good practices for the wise use of water and wetlands.	Baselines50% of Parties report actions taken to implement incentive measures that encourage the conservation and wise use of wetlands. (National Reports to COP12).37% of Parties report actions taken to remove perverse incentive measures that discourage conservation and wise use of wetlands. (National Reports to COP12).60% of Parties report private sector	3, 4, 7, 8	 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all. 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous 	Possible link to whatever SDG indicator is developed? Note: New national Report question to define. STRP Ecological Outcome Indicator A – The coverall conservation status of wetlands (Status and trends in ecosystem extent, ecosystem status-qualitative assessment). Some data	

		 undertaking activities for the conservation, wise use and management of wetlands in general. (National Reports to COP12). % of Parties have national Ramsar Committees that include both governmental and non-governmental representation. (Data source: new question for National Reports). Indicators % of Parties reporting actions taken to implement incentive measures that encourage the conservation and wise use of wetlands. (Data source: National Reports). % of Parties reporting actions taken to remove perverse incentive measures that discourage conservation and wise use of wetlands. (Data source: National Reports). % of Parties reporting private sector undertaking activities for the conservation, wise use and management of wetlands in general. (Data source: National Reports). % of Parties having national Ramsar Committees that include both governmental and non-governmental representation. (Data source: new question for National Reports). 		chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. 6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate. 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	available Sources: FAO, MODIS landcover project: mapped data for the same Reef check Lehner & Döll 2004. Regional sources include: Europe: Corine Landcover assessment: 2000, 2004 North America: Dahl 1990, 2000 Caribbean Reefs: Gardner et al. 2003. Other options, sources of information. STRP Ecological Outcome Indicator R – Plans affecting wetlands that are positively modified in the light of an impact assessment (Fact sheets have not been developed). STRP Ecological Outcomes Indicator S. The proportion of current wetland uses that are considered sustainable or "wise" use (Initial proposal fact sheets have not been developed). Other possible indicators and sources of information.	
4	Invasive alien species and pathways of introduction and expansion are identified and prioritized, priority invasive alien species are controlled	 Baselines 36% of Parties have established national policies or guidelines on invasive species control and management. (National Reports to COP12). 20% of Parties have a national inventory of invasive alien species that currently or potentially impact the ecological character 	9	15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate	Possible link to whatever SDG indicator is developed?	

or eradicated, and management responses are prepared and implemented to prevent their introduction and establishment.	of wetlands. (National Reports to COP12). Indicators % of Parties that have established or reviewed national policies or guidelines on invasive wetland species control and management. (Data source: National Reports). % of Parties having a national inventory of invasive alien species that currently or potentially impact the ecological character of wetlands. (Data source: National Reports).	the priority species		
	Possible further indicators that may be developed {Number of invasive species that are being controlled through management actions}		Simple absolute count of species subject to control recognising that indicators in the form of "% of non-native species" require a complete national inventory – which no- where exists (DS) Further options, sources of information, comments	 Suggested language: Adoption of national policies addressing IAS, as an indicator for the management response. For Parties that respond positively to having a national policy, create an indicator that shows progress with the implementation of national policies (according to a standard scale, of e.g. 1-5), number of Invasive Alien Species addressed. Comments: Three quarters of AHTEG proposed indicators are relevant to IAS, including: Trends in number of IAS introduction events Trend sin adoption of national legislation for prevention of introduction of IAS Red List Index cut of impact of IAS (apply to impacts on wetland species only) WCMC is working with IUCN IAS group looking to develop an indicator of pathways and it is worth to see if it could be disaggregated for wetlands. CBD has an indicator on frequency of introduction pathways of past invasive species (to identify the major pathways, prior to elaborating prevention measures), which could be considered, as well as what is the detail of measurement. See also IUCN-IAS specialist group indicators.
	{Effectiveness of wetland invasive alien species control programmes}		Could form the basis of new national report question? But would need to be in the form	

Goal	2: Effectively conse	erving and managing the Ramsar Site network			of categorical information e.g. no. of eradications / national control programmes / local control programmes etc. But realistically as much non- native control measures are implemented <i>locally</i> , it is hard to see how any <i>national</i> government would have this information. So maybe not much mileage here. (DS) Further options, sources of information.	
5	The ecological character of Ramsar Sites is maintained or restored, through effective planning and integrated management	BaselinesAt COP12, 973 Ramsar Sites have implemented management plans. (National Reports to COP12).Number of Ramsar Sites that have effective, implemented management plans. (Data source: new National Report question).27% of Parties have made assessments of effective management of Ramsar sites. (National Reports to COP12).43% (950 of Ramsar Sites have updated Ramsar Information Sheets. (Report of the Secretary General pursuant to Article 8.2 COP12 Doc.7).IndicatorsNumber of Ramsar Sites that have effective, implemented management plans. (Data source: National Report).Number of Ramsar Sites that have	6, 11, 12	 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species 	Note: New national Report question to define for Number of Ramsar Sites that have effective, implemented management planning. STRP Ecological Outcome Indicator B – The status of the ecological character of Ramsar Sites (fact sheet was under development no further work) STRP Ecological Outcome Indicator D – The frequency of threats affecting Ramsar Sites (qualitative assessment, (Initial draft of the fact sheet, no further development). STRP Ecological Outcome Indicator E. Wetland sites with successfully implemented conservation or wise use management plans (Fact sheet was under development but no further wok).	 Suggested language: Ecological character: Trends in extinction risk of wetland-dependent species (e.g. Red List Index for wetland-dependent species). Proxy – affected by processes operating outside Ramsar sites. Population trends of wetland-dependent species (e.g. Living Planet Index for wetland-dependent species). Proxy – affected by processes operating outside Ramsar sites. Proxy – affected by processes operating outside Ramsar sites. Trends in the condition of the ecological character of Ramsar sites. Requires monitoring of all aspects of ecological character and scoring this using some system to be defined. Trends in community intactness of wetland habitats (e.g. Biodiversity Habitat Index for wetland species/habitats). Proposed Biodiversity Habitat Index is based on PREDICTS model but hasn't been applied to wetland species (and would be difficult to do so). Restoration Trends in % of Ramsar sites requiring restoration where such activities are underway. Not all sites require restoration

effective, implemented planning ² . (Data source Report question). % of Parties that have of effective manageme (Data source: National % of Ramsar Sites that Ramsar Information Sh Ramsar Sites database	d management e: new National made assessments ent of Ramsar Sites. Reports). have updated leets. (Data source:).		 Trends in mean progress in achieving restoration activities at Ramsar sites requiring them. Score as complete, majority, minority, none i.e. distance to restoration project objectives Management effectiveness Trends in mean management effective score for Ramsar sites PAME assessments or area-weighted score Trends in % Ramsar sites with effective management i.e. highest scores from PAME assessment or derived from other assessments - provide description of different component of effective management & respondents can score yes/no easier to communicate Need to decide arbitrary threshold for "effective" if not already defined in PAME system.
Possible further indicated developed {Coverage of wetland of populations by designated indicator from Resoluted developed}.	tors that may be dependent bird ated Ramsar Sites. ion IX.1 to be	STRP Ecological Outcome Indicator F. Overall population trends of wetland taxa (Status and trends of waterbird biogeographic populations (fact sheet, no further work) STRP Ecological Outcome Indicator G. Changes in threat status of wetland taxa (no fact sheet has been developed). Not feasible for all waterbirds owing to lack of census information, but could be developed for a significant	Comments: Of the indicators listed above, The Red List Index and Living Planet Index can be used today and they don't need further development. R-METT could be achieved by collecting data from PAME/METT (but it would be partial). Percentage of sites may be a more useful metric but many of the indicators are referring to percentage of Parties, which may not prove as useful.
		number of species on many of the better monitored flyways. Initial task would be to develop a means of selecting representative species, but	

² Actions for appropriate wetland management that are not necessarily in the context of a formal management plan – Resolution VIII.14 SC51-Inf.Doc.05

		could be done with respect to ecology/habitat use – e.g. long-distance estuarine feeder = Red Knot <i>Calidris canutus</i> ; temperate grassland breeding wader <i>e.g.</i> Black-tailed Godwit <i>Limosa limosa.</i> Information from the International Waterbird Census could be matched against Ramsar Sites for the species concerned in the absence of update RIS (DS). SOWWS: Direct link to Index of change in abundance of populations in Ramsar Sites (SOWWS Figure 6 & 7) Further options, sources of information.	
{Coverage of wetland dependent non-avian populations by designated Ramsar Sites. Indicator from Resolution IX.1 to be developed}.		As above, but in the absence of wide application of Criterion 9, would need to identify relevant datasets for the species concerned. Probably possible for charismatic species such as crocodilians; river dolphins; hippos etc. via relevant IUCN Specialist Groups. (DS) SOWWS: Direct link to Index of change in abundance of populations in Ramsar Sites (SOWWS Figure 6 & 7) STRP Ecological Outcome Indicator F – Overall population trends of wetland taxa (Status and trends of waterbird biogeographic populations (fact sheet, no	

 					further work)	
		{% loss of IUCN Red Listed species from Ramsar Sites}			STRP Ecological Outcome Indicator G – Change to threat status of wetland taxa (no fact sheet has been developed no further work).	
					Indicator P – Coverage of threatened taxa by Ramsar Sites (Initial proposal no fact sheet has been developed no further work).	
					Other options, sources of information	
6	There is a significant increase in area, numbers and ecological connectivity in the Ramsar Site network in particular under- represented types of wetlands including in under- represented ecoregions and transboundary sites	Baseline By COP12, 2,186 Ramsar Sites have been designated. (Ramsar Sites database). By COP12 2,085,000 ha of Ramsar Sites have been designated. (Ramsar Sites database). By COP12 [16] transboundary Ramsar Sites have been designated. (Ramsar Secretariat). By COP12, Ramsar Sites have been designated. (Ramsar Secretariat). By COP12, Ramsar Sites have been designated for the following underrepresented Ramsar Sites: Karst and other subterranean hydrological systems – [110 Sites] Coral reefs – [96 Sites] Wet grasslands – [517 Sites] Peatlands – [564 Sites] Sea-grass beds – [249 Sites] Mangroves – [280 Sites] Temporary Pools – [729 Sites] Bivalve (shellfish) reefs – [99 Sites] (Ramsar Sites database, June 2015).	10, 11	 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species 	STRP Ecological Outcome Indicator H – The proportion of candidate Ramsar Sites designated so far (Coverage of the wetland biodiversity resource by designated Ramsar sites). Initial fact sheet no further work) STRP Ecological Outcome Indicator N – The proportion of each type of wetland "effectively conserved" (Initial proposal but no further development of the fact sheet) Further options, sources of information.	
		Indicators				

		Number of Ramsar sites that have been designated. (Data source: Ramsar Sites database). Total hectares of Ramsar sites that have been designated. (Data source: Ramsar Sites database). Number of transboundary Ramsar Sites that have been designated. (Data source: Ramsar Sites database). Number of Ramsar Sites ³ designated for the following under-represented wetland types: Karst and other subterranean hydrological systems – [XXX Sites] Coral reefs – [XXX Sites] Wet grasslands – [XXX Sites] Peatlands – [XXX Sites] Sea-grass beds – [XXX Sites] Mangroves – [XXX Sites] Bivalve (shellfish) reefs – [XXX Sites] (Data source: Ramsar Sites database).				
7	Sites that are at risk of change of ecological character have threats addressed.	BaselineAt COP12, [47] Ramsar Sites (2.2%) are listed on the Montreux Record. (Report of the Secretary General pursuant to Article 8.2 COP12 Doc.7).21% of Parties have reported to the Ramsar Secretariat all cases of negative human- induced change or likely change in the ecological character of Ramsar sites pursuant to Article 3.2. (National Reports to COP12).[76] Ramsar Sites reported by Parties to the Ramsar Secretariat of negative human-	5, 7, 11, 12	15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	SOWWS: Indirect link to Wetland Global Extent Index SOWWS: Direct link to Index of change in abundance of populations in Ramsar Sites (SOWWS Figures 6 & 7) SOWWS: Direct link to Wetland Extent Index (UNEP- WCMC) STRP Ecological Outcome Indicator B – The status of the ecological character of Ramsar Sites (fact sheet was under	

³ Totals relate to number of sites containing the relevant habitat site: some sites may contain more than one habitat type and so be counted under each habitat SC51-Inf.Doc.05

 induced change or likely change in the ecological character of Ramsar Sites pursuant to Article 3.2. (Data source: Report of the Secretary General pursuant to Article 8.2 COP12 Doc.7). 16% of Parties have taken actions to address the issues for which Ramsar sites have been listed on the Montreux Record. (National Reports to COP12). Indicators Number of Ramsar Sites removed from the Montreux Record. (Data source: Ramsar Site database). % of Parties reporting to the Ramsar Secretariat all cases of negative humaninduced change or likely change in the ecological character of Ramsar Sites pursuant to Article 3.2. (Data source: National Reports). [Reword as % cases that are reported by Parties] Number of Ramsar Sites reported by Parties to the Ramsar Secretariat of negative human-induced change or likely change or likely change in the ecological character of Ramsar Sites reported by Parties] Number of Ramsar Sites reported by Parties to the Ramsar Secretariat of negative human-induced change or likely change or likely change in the ecological character of Ramsar Sites pursuant to Article 3.2. (Data source: National Reports). % of Parties that have taken actions to address the issues for which Ramsar Sites have been listed on the Montreux Record. (National Reports to COP12). 	development but no further work) STRP Ecological Outcome Indicator D – The frequency of threats affecting Ramsar Sites (Initial draft of the fact sheet, but no further development). Other options, sources of information	
Possible further indicators that may be developed {Indicator(s) relating to (numbers of) Ramsar Sites at risk}	Any 'at risk' indicator inherently politically sensitive. So realistically would need to be related to objective information such as potential sea-level rise or acid deposition – obtainable from other global sources. (DS)	Suggested language: Trends in number of Ramsar sites at which threats are being monitored: • Through Article 3.2 reports Trends in degree of threat of Ramsar sites (Mean threat score for IBAs that are Ramsar Sites):

						 Based on standardised IBA monitoring methods that score all threats for timing, scope and severity, and repeated over time Trends in extinction risk of wetland-dependent species (e.g. Red List Index for wetland-dependent species). Proxy – affected by processes operating outside Ramsar sites. Population trends of wetland-dependent species (e.g. Living Planet Index for wetland-dependent species). Proxy – affected by processes operating outside Ramsar sites. Proxy – affected by processes operating outside Ramsar sites. Trends in the condition of the ecological character of Ramsar Sites Requires monitoring of all aspects of ecological character and scoring this using some system to be defined. Trends in community intactness of wetland habitats (e.g. Biodiversity Habitat Index for wetland species/habitats) Proposed Biodiversity Habitat Index is based on PREDICTS model but hasn't been applied to wetland spp (and would be difficult to do so)
						Indicators of management effectiveness are relevant here
Goal	3: Wisely using all	wetlands		-		
8	National wetland inventories have been initiated, completed or updated and disseminated and used for promoting the conservation and effective management of all wetlands.	BaselinesAt COP12, 47% of Parties have a complete national wetlands inventory. (National Reports to COP12).At COP13, [XX] % of Parties have updated their national inventories in the last decade. (New question for National Reports).Indicators% of Parties that have complete national wetland inventories. (Data source: National Reports).	12, 14, 18, 19	15. 1 by 2020 ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	Note : New national Report question to define.	

		% of Parties that have updated their national inventories in the last decade. (Data source: new question for National Reports).				
9	The wise use of wetlands is strengthened through integrated resource management at the appropriate scale, inter alia, within a river basin or along a coastal zone.	 Baseline 55% of Parties have adopted wetland policies or equivalent instruments that promote the wise use of their wetlands. (National Reports to COP12). 71% of Parties consider wetlands as natural water infrastructure integral to water resource management at the scale of river basin. (National Reports to COP12). Indicators % of Parties that have adopted wetland policies or equivalent instruments that promote the wise use of their wetlands. (Data source: National Reports). % of Parties that consider wetlands as natural water infrastructure integral to water resource management at the scale of river basin. (Data source: National Reports). % of Parties that consider wetlands as natural water infrastructure integral to water resource management at the scale of river basin. (Data source: National Reports). 	4, 6, 7	 12.2 By 2030, achieve the sustainable management and efficient use of natural resources 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 	Possible link to whatever SDG (sub) indicator(s) developed? (refer to List of the SDG Indicators) SOWWS: Direct link to Index of change in abundance of populations in Ramsar Sites (SOWWS Figure 6 & 7) STRP Ecological Outcome Indicator S – The proportion of current wetland uses that are considered sustainable or "wise" use (Initial proposal but no further development) STRP Ecological Outcome Indicator E – Wetland sites with successfully implemented conservation or wise use management plans (was under development but no further work)	
		Possible further indicators that may be developed			An assessment and reporting mechanism would be needed at basin scale which is not	Suggested language: Trends in the number of Parties with IWRM at the scale of a river basin or coastal zone (source IWRM data sources through UNEP

		{Involvement of stakeholders in various aspects of wetland and/or basin-scale management}			feasible. Need to unpack what is meant by "integrated resource management" – may be mileage in some aspects of that e.g. sustainability of relevant inland or coastal fisheries: http://journals.plos.org/ploso ne/article?id=10.1371/journal. pone.0122809 (DS) Further options, sources of information.	 DHI portal) <u>http://iwrmdataportal.unepdhi.org/</u>. % of population using well managed water services (ref. SDG 14.2) Number of countries that are represented through transboundary River Basin Organizations (emphasizes the importance of international co-operation). Comments: See link to the IWRM UNEP DHI website for more information about participation Two additional indicators proposed: wetland extent index and
10	The traditional knowledge, innovations and practices of indigenous peoples and local communities relevant for the wise use of wetlands and their customary use of wetland resources, are documented, respected, subject to national legislation and relevant international obligations and fully integrated and reflected in the implementation of the Convention	Possible further indicators that may be developed {Possible use or further development of indicator(s) linked to work currently being undertaken to develop indicator(s) for related Aichi Target 18 of the Strategic Plan for Biodiversity}.	18	12.8 by 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	Aichi #18 linkage. Note paper from UN Secretary General to UNGA on Harmony with Nature: https://sustainabledevelopme nt.un.org/content/documents /7935Advanced%20unedited %20Version- %20Harmony%20with%20Nat ure.pdf Note ongoing work by IPBES on Local and Indigenous Knowledge Systems: http://www.unesco.org/new/ en/natural-sciences/priority- areas/links/biodiversity/projec ts/indigenous-knowledge- within-the-framework-of- ipbes/ Further options, sources of information.	 percentage of area of protected wetlands Suggested language: Trends in the number of countries that have reported inventories of cultural practices and traditional knowledge related to wetlands within their area Trends in the number of Ramsar Sites Management Plans that incorporate issues regarding local communities and traditional knowledge Comments: links with AICHI Target 18: respect, integrate, participation included.

	with a full and effective participation of indigenous and local communities at all relevant levels.					
11	Wetland functions, services and benefits are widely demonstrated, documented and disseminated.	 Baseline 19% of Parties have made assessment of ecosystem services of Ramsar sites. (National Reports to COP12). 39% of Parties have incorporated wetlands issues into poverty eradication strategies. (National Reports to COP12). 42% of Parties have implemented programmes or projects that contribute to poverty alleviation objectives or food and water security plans. (National Reports to COP12). Indicators % of Parties that have made assessment of ecosystem services of Ramsar Sites. (Data source: National Reports). % of Parties that have incorporated wetlands issues into poverty eradication strategies. (Data source: National Reports). % of Parties that have implemented programmes or projects that contribute to poverty alleviation objectives or food and wetlands issues into poverty eradication strategies. (Data source: National Reports). % of Parties that have implemented programmes or projects that contribute to poverty alleviation objectives or food and water security plans. (Data source: National Reports). 	1, 2, 13, 14		Further options, sources of information.	
12	Restoration is in progress in degraded wetlands, with	Baseline 68% of Parties have identified priority sites for restoration. (National Reports to	14, 15	13.1 Strengthen resilience and adaptive capacity to climate-related	SOWWS: Indirect link to Wetland Global Extent Index SOWWS: Global Mangrove	N.B. This Target links to Aichi 15

price wet are bioo con disa redu live and cha miti ada	prity to tlands that relevant for diversity aster risk luction, elihoods d/or climate ange cigation and aptation	COP12). 70% of Parties have implemented restoration or rehabilitation programmes. (National Reports to COP12). Indicators % of Parties that have established restoration plans [or activities] for sites. (Data source: National Reports). % of Parties that have implemented effective restoration or rehabilitation projects. (Data source: National Reports).	hazards and natural disasters in all countries 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	Watch may have relevant datasets at regional scale STRP Ecological Outcome Indicator Q – The number of wetland restoration schemes underway (Initial proposal but not proposed for further development) STRP Ecological Outcome Indicator J – The economic costs of unwanted floods and droughts (no fact sheet has been developed no further work) Further options, sources of information	
		Possible further indicators that may be developed {Outcome-based indicators(s) related to (extent of) wetland restoration possibly including remote sensing as appropriate}.		Remote sensing would be feasible but complex, as would need to distinguish degraded wetland rewetted as a result of restoration from, say, climate change enhanced flooding, for example. Would need significant development work, but this might be stimulated via academic or	 Suggested language: Trends in the number of Parties that have developed wetland inventories which include maps of degraded wetlands that can be restored, which provide critical ecosystem services (source: National Wetland Inventories / Reports; Also cross reference with target 8). Trends in number of Parties that have developed restoration projects (source: Global Ecosystem Restoration Index for wetlands, GEO BON).

					other interested stakeholders?? (DS) SOWWS: outcomes of GlobWetland Africa? Further options, sources of information	 Trends in productivity of wetlands use (Source: Land-use productivity, UNCCD). Area of wetlands that have been restored or are under restoration? (Source: wetlands extent trends (WET); national reports q.). Comments: Important to relate amount of restored to amount of candidate area available for restoration and National Reports (so indicator needs to include info on area needing or meriting restoration).
13 Goal 4	Enhanced sustainability of key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture and fisheries when they affect wetlands, contributing to biodiversity conservation and human livelihoods	Possible further indicators that may be developed {Indicators related to the relevant sectors especially using or linking to relevant Aichi Target indicators and other relevant international processes}.	6, 7	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	Issue is much bigger than Ramsar – possibly piggy-back on Aichi/SDG indicators (DS). Existing fisheries indicators would be possible? (DS) STRP Ecological Outcome Indicator L – Wise use policy (no fact sheet has been developed nor further work) Other options, sources of information	 Suggestions: Industry norms Trends in the number of industry norms that exist to reduce impact on wetlands (e.g. Industry Association Standards, Environmental Impact Assessments, Certifications). Technologies that reduce water dependence Trends in the uptake of technologies that reduce water dependence. Trends in the number of financial institutions that have incorporated consideration of impact on Ramsar Sites into lending and investment criteria Trends in the number of national approaches to achieve no net loss in wetlands Comments: Cross references with AICHI 2 and with SDGs Target 12.6
1.4		Paceline	10			
17	guidance and technical methodologies at global and regional levels is developed on relevant topics and is available	In 2015, [543] 'hits' on scientific and technical guidance pages of the Ramsar web-site. (Data source: Google Analytics Ramsar web-site, May-June, 2015). In 2015, [60] 'hits' on STRP briefing notes from the Ramsar web-site. (Data source:				

to policy makers and practitioners in an appropriate format and language	Google Analytics Ramsar web-site, May- June, 2015)). In 2015, [176] 'hits' of relevant Ramsar Handbooks downloaded from the Ramsar web-site (Data source: Google Analytics Ramsar web-site, May-June, 2015) In 2015, [150] practical tools and guidance documents for wetland conservation and wise use, and other key scientific documentation, which has been developed by either STRP, Parties and others, and is available via the Ramsar website. (Data source: Ramsar web-site). Indicator Number of 'hits' on scientific and technical guidance pages of the Ramsar web-site and associated subtotals by country and Ramsar Region of the source of these hits. (Data source: Ramsar web-site analytics). Number of STRP briefing papers downloaded from the Ramsar web-site and subtotals by country and Ramsar Region of the source of these downloads. (Data source: Ramsar web-site analytics). Number of relevant Ramsar Handbooks downloaded from the Ramsar web-site and subtotals by country and Ramsar Region of the source of these downloads. (Data source: Ramsar web-site analytics). Number of relevant Ramsar Handbooks downloaded from the Ramsar web-site and subtotals by country and Ramsar Region of the source of these downloads. (Data source: Ramsar web-site analytics). Number of practical tools and guidance documents for wetland conservation and wise use, and other key scientific documentation, which has been developed by STRP, Parties and others, and is available via the Ramsar website. (Data source: Ramsar web-site).			

		Possible further indicators that may be developed {Indicator(s) related to the use of guidance and availability in various language versions}.				 Suggested language: % of the guidance available in the three Convention languages Measure: reporting on a yearly basis Who: the Secretariat should collect the data through Google analytics Cost: nominal (Google analytical) It overlaps with Aichi target 19 (but smaller in scope and could not really find true links in terms of indicators). Comments: Indicator could be expanded to include where guidance is available in languages beyond the three Ramsar Convention languages. One of the AHTEG's indicators refers to peer reviewed journals. Perhaps the same could be translated to the Ramsar context.
15	Ramsar Regional Initiatives with the active involvement and support of the Parties in each region are reinforced and developed into effective tools to assist in the full implementation of the Convention.	 Baselines By COP12, [15] Regional Initiatives are in operation under the framework of the Ramsar Convention. (Ramsar Secretariat). 68% of Parties have been involved in the development and implementation of a Regional Initiative under the framework of the Convention. (National Reports to COP12). Indicators Number of Regional Initiatives successfully implemented. (Data source: National Reports). % of Parties that have been involved in the development and implementation of a Regional Initiative under the framework of the Convention. (Data source: National Reports). 				
16	Wetlands conservation and wise use are mainstreamed	Baselines World Wetland Day 89% of Parties have branded Word Wetlands Day activities. (National Reports to COP12).	1, 18	13.3 Improve education, awareness-raising and human and institutional capacity	STRP Ecological Outcome Indicator K – Legislative amendments implemented to reflect Ramsar provisions (no fact sheet has been developed	

through communication, capacity development, education, participation and awareness.	In 2015 884 World Wetland Day activities or events reported to the Secretariat. (Data source: Ramsar Secretariat CEPA program) In 2015, [379] internet references (in the press) to World Wetland Day activities. (Data source: Meltwater internet analysis). In 2015, [58, 566] individual visits to the World Wetlands Day website. {Data source: worldwetlandsday.org website}. In 2015 Social media links to World Wetland Day: 16,135,974 people reached in FaceBook . (Data source: https://www.facebook.com/RamsarC onventionOnWetlands) . 795 views of WWD message from Youtube channel (Data source Ramsar Youtube Channel https://www.youtube.com/user/Ra msarConvention) 292,100 reached in Twitter (Data source https://twitter.com/RamsarConv) <i>CEPA programmes</i> 80% of Parties with a) a governmental CEPA National Focal Point and 69% of Parties with b) a non-governmental National Focal Point. (Data source: Ramsar Secretariat Data Base and National Reports to COP12).	on climate change mitigation, adaptation, impact reduction and early warning	no further work) STRP Ecological Outcome Indicator L – Wise use policy (no fact sheet has been developed no further work) STRP Ecological Outcome Indicator U – The views of affected communities about Ramsar objectives (Initial proposal nut not for further development). Other options, sources of information.	
	27% of Parties have established national action plans for wetland CEPA. (National Reports to COP12).			

		1		
	By COP12, 636 centres (visitor centres, interpretation centres, education centres) have been established in Ramsar sites. (National Reports to COP12).			
	By COP12, 309 centres established at other wetlands. (National Reports to COP12).			
	Indicators			
	World Wetland Day % of Parties that have branded World Wetlands Day activities. (Data source: National Reports).			
	Number of World Wetland Day activities or events reported to the Secretariat. (Data source: Ramsar CEPA program).			
	Number of internet references to World Wetland Day activities. {Data source: internet analysis}.			
	Number of internet references to the Ramsar Convention. {Data source: internet analysis}.			
	Number of social media links to World Wetland Day. {Data source: social media analyses}.			
	CEPA programme % of Parties with a) a governmental CEPA National Focal Point and b) a non-governmental National Focal Point (Data source: National Reports).			
	% of Parties that have established national action plans for wetland CEPA. (Data source: National Reports).			

Visit	itor centres Number of centres (visitor centres, interpretation centres, education centres) have been established in Ramsar Sites. (Data source: National Reports). Number of centres at other wetlands. (Data source: National Reports).			
Pose devi are pros	ssible further indicators that may be veloped dicator(s) related to whether and how tland conservation and wise-use issues included formal education ogrammes}.		Would need to be a national report question. (DS).	 Suggested language: Consider: linking to SDGs, which may be useful. Need to monitor progress and possibly to use as proxy Target 12.8: Proposed indicator: % of education institutions providing education for sustainable development (UNESCO global modules, with 11 components). But the issue would be with disaggregation to a wetland level. Could use as proxy: whether modules use a biodiversity wording. Then can look into specifics/if so, collaborate with UNESCO-development of Ramsar module?] Alternatively, consider: adding an indicator to CEPA reporting in National Reports: Indicator at primary and secondary school level: % of schools at the national level report holding World Wetlands Day activities Measure through the national WWD report For reference: BIP biodiversity barometer (indicators easy to communicate. Use as proxy: biodiversity awareness. To be done by: Countries through WWD reports, data collated and analysed by the Ramsar Secretariat Indicator at university level: percentage of schools offering wetland-specific courses Through CEPA reporting (National Reports): but could prove quite burdensome for Parties. If this approach were to be adopted, this could be viewed as a form of mainstreaming into the education sector as one of the sectors (in target 1). If you are seeking to mainstream wetlands into education, you could do it through course and curricula at the national level.

17	Financial and other resources for effectively implementing the fourth Ramsar Strategic Plan 2016 – 2024 from all sources are made available	Baseline21% of Contracting Parties have provided additional financial support through voluntary contributions to non-core funded Convention activities. (National Reports to COP12).40% of Contracting Parties have received funding support from development assistance agencies for national wetlands conservation and management. (National Reports to COP12).Indicators% of Contracting Parties that have provided additional financial support through voluntary contributions to non-core funded Convention activities. (National Reports to COP12).% of Parties that have received funding support from development assistance agencies for national wetlands conservation and management. (Data source: National Reports).	20	15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems		
		Possible further indicators that may be developed {Indicator(s) related to flows of financing related to different aspects of Strategic Plan implementation}.			Discussion at COP12 highlighted the inherent impossibility of developing such a metric for developed countries owing to OECD not including 'wetland' as keyword in international economic overviews (and hence national reporting) Realistically little potential here (DS).	 Suggestions: It would be useful to look at OECD data to find out whether "wetlands" are used in their coding of financial flows towards wetland-related projects. However, this needs crosschecking with David Stroud's comment. This information could be collated by the Secretariat. Also consider the Secretariat's GEF analysis on amount of funds invested in wetland related projects. Look at SDG 15a: Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems. consider using proxies: amounts mobilized towards biodiversity conservation, as proxy for wetland conservation (need to monitor development)

					A percentage for wetlands could be developed
18	International cooperation is strengthened at all levels	 Baselines Regional Initiatives By COP12, [15] Regional Initiatives are in operation under the framework of the Ramsar Convention. (Ramsar Secretariat). 68% of Parties have been involved in the development and implementation of a Regional Initiative under the framework of the Convention. (National Reports to COP12). Other aspects of co-operation 35% of Parties have established networks including twinning arrangements nationally or internationally for knowledge sharing and training for wetlands that share common features. (National Reports to COP12). 33% of Parties have effective cooperative management in place for shared wetland systems (for example in shared river basins and coastal zones). (National Reports to COP12). [XX]% of Parties have co-ordination mechanisms for the implementation of MEAs existing at a national level. (Data source: new question for National Reports). At COP12, 168 Parties have acceded to the Ramsar Convention. (Report of the Secretary General to COP12 on the implementation of the Convention, COP12Doc8). At COP12, [16] transboundary Ramsar Sites. (Data source: Ramsar Secretariat). Indicators 	17.17 encourage and promote effective public, public- private, and civil society partnerships, building on the experience and resourcing strategies of partnerships	Note: New national Report question to define. SOWWS: Possible direct link to outcome of the Transboundary Waters Assessment Programme (TWAP) River Basins Assessment. Other options, sources of information	

		 Regional Initiatives Number of Regional Initiatives successfully implemented. (Data source: National Reports). % of Parties that have been involved in the development and implementation of a Regional Initiative under the framework of the Convention. (Data source: National Reports). Other aspects of co-operation % of Parties that have established networks including twinning arrangements nationally or internationally for knowledge sharing and training for wetlands that share common features. (Data source: National Reports). % of Parties that have effective cooperative management in place for shared wetland systems (for example in shared river basins and coastal zones). (Data source: National Reports). % of Parties where co-ordination mechanisms for the implementation of MEAs exist at a national level. (Data source: new question for National Reports). Number of Parties which have acceded to the Ramsar Convention. (Data Source: National Reports). Total number of transboundary Ramsar Sites. (Data source: Ramsar Sites Database). 			
19	Capacity building for implementation of the	Baseline 20% of Parties have made an assessment of national and local training needs for the	1, 17	15.a Mobilize and significantly increase financial resources from all sources to	

Convention and the 4th Ramsar Strategic Plan	implementation of the Convention. (National Reports to COP12).	conserve and sustainably use biodiversity and	
2016 – 2024 is	Indicator	ecosystems	
enhanced.			
	% of Parties that have made an assessment	17.9 Enhance	
	of national and local training needs for the	international support	
	implementation of the Convention.	for implementing	
	(National Reports to COP12).	effective and	
		targeted capacity-	
		building in	
		developing countries	
		to support national	
		plans to implement	
		all the sustainable	
		development goals,	
		including through	
		North-South, South-	
		South and triangular	
		cooperation	

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