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TECHNICAL EXPERT WORKSHOP ON OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES FOR ACHIEVING AICHI BIODIVERSITY TARGET 11
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CONTRIBUTIONS OF OTHER EFFECTIVE AREA-BASED CONSERVATION MEASURES TO ACHIEVE AICHI BIODIVERSITY TARGET 11, OTHER AICHI TARGETS, AND RELEVANT TARGETS OF THE SUSTAINABLE DEVELOPMENT GOALS

Note by the Executive Secretary

I. INTRODUCTION

1. The Executive Secretary is organizing a technical expert workshop on other effective area-based conservation measures, pursuant to decision XIII/2, paragraph 10(b). The workshop aims to provide scientific and technical advice on the definition, management approaches and identification of other effective area-based conservation measures (OECMs), as well as their role in contributing to the achievement of Aichi Biodiversity Target 11.

2. This document presents the potential contributions of OECMs to the elements of Aichi Biodiversity Target 11 (section II), as well as their contribution to other Aichi Biodiversity Targets (section III), relevant goals and targets of the 2030 Agenda for Sustainable Development, and other multi-lateral environmental agreements (section IV).

II. CONTRIBUTIONS TO THE ELEMENTS OF AICHI BIODIVERSITY TARGET 11

3. The Strategic Plan for Biodiversity 2011-2020 was adopted at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity in 2010. It's 20 Aichi Biodiversity Targets are organized under five Strategic Goals, focused on addressing the underlying causes of biodiversity loss, reducing direct pressures on biodiversity and promoting sustainable use, improving its status, enhancing the benefits to all from biodiversity and ecosystem services, as well as increasing implementation, knowledge management and capacity-building. Strategic Goal C which focuses on improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity includes, among others, Target 11[1] on in situ conservation.

4. Target 11 is composed of both quantitative coverage targets (conserving at least 17% of terrestrial and inland waters and at least 10% of coastal and marine areas) and a set of qualifying elements (ecological representation, coverage of areas important for biodiversity and ecosystem services, connectivity, integration into the wider landscapes and seascapes, and effective and equitable

[1] By 2020 at least 17% of terrestrial and inland water and 10% 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 landscape and seascape.

management) meant to ensure the success of these conservation efforts. Given the indivisible nature of the Target, for successful achievement, progress is needed on all elements.

5. In recognition of the fact that there may be areas outside of formally recognised protected area networks that will also offer important contributions to effective *in-situ* conservation of biodiversity, two means are specified for meeting the requirements of Target 11: protected areas and other effective area-based conservation measures (OECMs). However, due in part to the lack of an agreed definition for OECMs and guidance on their identification, protected areas have been the primary focus of efforts to achieve Target 11 so far. As such, work has been ongoing through the IUCN-World Commission on Protected Areas Task Force on Other Effective Area-based Conservation Measures, pursuant to decision XI/24, to develop guidelines aiming to "provide advice on identifying and reporting OECMs in marine, freshwater and terrestrial environments."[2]

6. The mid-term assessment of progress towards the implementation of the Strategic Plan for Biodiversity 2011-2020, presented in the fourth *Global Biodiversity Outlook*, showed that for most elements of Target 11 progress was occurring, but at an insufficient rate, and unless efforts were increased, the Target would not be met by 2020.[3] Recognition and reporting of OECMs may provide a better picture of the status of the target and facilitate progress towards the achievement of Target 11.

7. OECMs can make significant contributions to all elements of the target, *inter alia*, through the conservation of important ecosystems, habitats and wildlife corridors, retaining and connecting fragmented ecosystems, and contributing to ecologically representative and well-connected conservation systems, integrated within wider landscapes and seascapes.[4]

8. As of December 2017, global terrestrial protected area coverage has reached 15%,[5] which means an additional 2% (approximately 2.7 million km^2) must be designated to meet the minimum coverage target by 2020. OECMs offer one potential avenue for meeting the 17% minimum coverage target for terrestrial and inland waters.

9. In several decisions (e.g. IX/18 and X/31), Parties have been invited to recognise the contribution of territories and areas conserved by indigenous peoples and local communities (ICCAs). ICCAs cover large areas, in a variety of ecosystems,[6] and some of these sites may currently be un-reported to the World Database on Protected Areas (WDPA), which is used for assessing progress towards Target 11. Efforts to recognise and report these areas (which may be designated as protected areas, or OECMs, or neither), subject to the free, prior and informed consent of the relevant communities, may change the outlook for Target 11 significantly.

10. Marine protected area coverage is currently 16.02% for areas under national jurisdiction, 1.18% for areas beyond national jurisdiction (ABNJ), and 6.96% for the ocean as a whole.[7] OECMs may help to fill some of the more than 11 million km^2 gap remaining to reach the minimum coverage target for the ocean as a whole. Examples of potential marine OECMs could include, "coastal and marine areas where

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[2] IUCN WCPA (2018), (Draft) *Guidelines for Recognising and Reporting Other Effective Area-based Conservation Measures*, IUCN, Switzerland. Version 1.

[3] Secretariat of the Convention on Biological Diversity (2014). *Global Biodiversity Outlook 4*. Montreal, Canada: Secretariat of the Convention on Biological Diversity.

[4] IUCN WCPA (2018).

[5] UNEP-WCMC and IUCN (2017a), Protected Planet: World Database on Protected Areas (WDPA) [On-line], [December, 2017], Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net.

[6] Kothari, A., with Corrigan, C., Jonas, H., Neumann, A. and Shrumm, H. (eds.) (2012). *Recognising and Supporting Territories and Areas Conserved By Indigenous Peoples and Local Communities: Global Overview and National Case Studies*. CBD Technical Series No. 64, Montreal, Canada: Secretariat of the Convention on Biological Diversity, ICCA Consortium, Kalpavriksh, and Natural Justice.

[7] UNEP-WCMC and IUCN (2017b) Marine Protected Planet [Online], [December, 2017], Cambridge, UK: UNEP-WCMC and IUCN Available at: www.protectedplanet.net/marine.

local community-based harvesting and management practices result in *de facto* conservation of fish populations and other associated marine biodiversity" or "coastal and marine areas protected for reasons other than conservation, but that nonetheless achieve the *in-situ* conservation of biodiversity (e.g., historic wrecks, war graves, etc.)"[8], among many other possibilities. Additionally, locally managed marine areas (LMMAs) may contribute to achieving the marine coverage component of Aichi Biodiversity Target 11, though they may currently be under-represented in the WDPA. Nearly 1,000 LMMAs have been recorded in the Pacific Islands, though their coverage of inshore waters has not yet been estimated. These approaches have encouraged many islands to incorporate LMMAs as national policy approaches to coastal fisheries management and conservation.

11. Beyond the two quantitative targets (coverage of terrestrial and inland waters, and coastal and marine areas), OECMs will also have benefits for all of the Target's qualifying elements, namely: ecological representation, connectivity, the coverage of areas important for biodiversity and ecosystem services, integration within the wider landscape and seascape, and effective and equitable management.

12. Globally, ecological representation is generally assessed based on the representation of different ecoregions within protected area networks. Despite rapid growth in marine protected area coverage in recent years, the majority of marine ecoregions still have less than 10% coverage by protected areas (94 of 232, or 41%, in October 2017[9]). A similar proportion of terrestrial ecoregions (361 of 823, or 44%) have reached 17% coverage. Appropriately accounting for OECMs may help fill some of these gaps in ecological representation for the global network of protected and conserved areas.

13. Protected area coverage of Key Biodiversity Areas (KBAs) provides one measure for tracking progress towards the conservation of areas important for biodiversity element of Target 11. In April 2016, less than 20% of identified KBAs were fully covered by protected areas reported in the WDPA.[10] OECMs may offer one potential avenue for increasing protection of these important sites for biodiversity. The IUCN-WCPA Task Forces's *Draft Guidelines* indicate that KBAs that are managed "in ways that deliver long-term *in-situ* conservation of biodiversity through, for example, regulation or other effective approaches" could be considered as OECMs. One example could be Mount Apo KBA in the Philippines, which is managed through a 'culture based conservation framework', with biodiversity conservation as an explicit management objective.[11] There is also research currently underway to assess the contribution of OECMs to conserving KBAs in several countries.[12]

14. While there is currently no indicator identified for use at the global level for assessing coverage of areas important for ecosystem services, many countries have conducted assessments to identify areas important for sustaining essential ecosystem services at a national or local level, and offer some form of legal protection or other effective means for their conservation. The proposed definition of an OECM recognizes that effective *in-situ* conservation of biodiversity may deliver "associated ecosystem services and cultural and spiritual values."[13] Sites that, in addition to conserving biodiversity *in-situ*, also provide critical ecosystem services could be considered for designation as OECMs, contributing to this element of Target 11. Examples of potential OECMs offering *secondary conservation*, could include, "watersheds or other areas managed primarily for water resource management that also result in the *in-situ* conservation

[8] IUCN WCPA (2018).

[9] Joint Research Centre of the European Commission (2017), The Digital Observatory for Protected Areas (DOPA) Explorer 2.0 [On-line], [10/2017], Ispra, Italy. Available at: http://dopa-explorer.jrc.ec.europa.eu.

[10] UNEP-WCMC and IUCN (2016), *Protected Planet Report 2016*, Cambridge, UK and Gland, Switzerland: UNEP-WCMC and IUCN.

[11] IUCN-WCPA Task Force on Other Effective Area-based Conservation Measures (2017), Collation of Case Studies Submitted to the Task Force (2016-2017), Available at: https://www.iucn.org/theme/protected-areas/wcpa/what-we-do/oecms.

[12] The role of 'other effective area-based conservation measures' in achieving Aichi Target 11. Available at: http://www.cambridgeconservation.org/collaboration/role-of-other-effective-area-based-conservation-measures-in-achieving-aichi-target-11.

[13] IUCN WCPA (2018).

of biodiversity ... for example, water meadows, riverine forest, coastal forests, wetlands, streams, upland catchments, or other areas managed for long-term soil and slope stabilisation, flood mitigation, or other ecosystem services."[14] It should be noted, however, that "management to enhance one particular ecosystem service should not impact negatively on the site's overall biodiversity conservation values."[15]

15. Well-connected systems of protected areas are important for ensuring the maintenance of ecological and evolutionary processes, especially given the impacts of climate change and increasingly fragmented natural landscapes. For the connectivity element of Target 11, the proposed indicator, (the Protected Area Connectedness Index), is under active development and not yet available for use.[16] Recent studies have used graph-based metrics that measure the amount of land that is reachable through dispersal by terrestrial birds and mammals across the protected area network, accounting for both the area reachable within a protected area and between protected areas, and have led to the development of the Protected-Connected indicator.[17]

16. The current connectivity of the world's terrestrial protected area estate has been shown to be of insufficient configuration and scale to permit dispersal for median dispersal distances of 1 to 100 km, covering the abilities of most terrestrial birds and mammals, whether assessed at the ecoregion[18] or country[19] level. To improve connectivity, many countries would require the designation of new protected areas "in strategic locations for connectivity so that they can act as stepping stones or corridors" while many more require an overall increase in protected area cover.[20] OECMs may help to fill some of these gaps that limit the connectivity of existing protected area networks. For example, "areas of importance for ecological connectivity" are listed as one of the elements of native biodiversity that OECMs may protect. Potential OECMs could include "areas that contribute to conservation because of their role in connecting protected areas and other areas of particular importance for the conservation of biodiversity, thereby contributing to the long-term viability of larger ecosystems."[21]

17. Protected areas should be integrated into the wider landscapes and seascapes, as well as broader sectoral plans and policies, to yield their full benefits.[22] OECMs may help to link protected areas into wider networks and with managed lands and waters, integrating them spatially with the surrounding landscape and seascape. They may also help to integrate sustainable productive activities within networks of protected and conserved areas.

18. Pursuant to decision X/31, by 2015, only 21% of Parties to the Convention, excluding overseas territories, had met the 60% target for the implementation of protected area management effectiveness evaluations.[23] Although OECMs do not require a primary objective of conservation, "there must be a

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[14] IUCN WCPA (2018).

[15] IUCN WCPA (2018).

[16] Decision adopted by the Conference of the Parties to the Convention on Biological Diversity at its thirteenth meeting. *Decision XIII/28. Indicators for the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets*. Available at: https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-28-en.pdf.

[17] Saura, S. et al. (2017) Protected areas in the world's ecoregions: How well connected are they? *Ecological Indicators*, 78, 144-158.

[18] Saura, S. et al. (2017).

[19] Saura, S. et al. (2018) Protected area connectivity: Shortfalls in global targets and country-level priorities, *Biological Conservation*, 219, 53-67.

[20] Saura, S. et al. (2018).

[21] IUCN WCPA (2018).

[22] Ervin, J. et al. (2010). *Making Protected Areas Relevant: A guide to integrating protected areas into wider landscapes, seascapes and sectoral plans and strategies*. CBD Technical Series No. 44, Montreal, Canada: Secretariat of the Convention on Biological Diversity.

[23] Coad, L. et al. (2015). Measuring impact of protected area management interventions: current and future use of the Global Database of Protected Area Management Effectiveness. *Philosophical Transactions of the Royal Society B*, 370 (1681).

direct causal link between the area's overall objective and management and the *in-situ* conservation of biodiversity over the long-term."[24] As such, monitoring and reporting on the effectiveness of OECMs is a necessity, and the most practical means to carry this out would be through use of the tools developed for protected area management effectiveness evaluations, supported by additional quantitative information on biodiversity outcomes. Thus, recognition and reporting on OECMs, with the completion of appropriate management effectiveness assessments could increase the number of Parties meeting the 60% assessment target.

19. As proposed in the *Draft Guidelines*, the same range of governance types defined for protected areas may be applied to OECMs, specifically: governance by governments; shared governance; governance by private individuals, organisations or companies; and governance by Indigenous Peoples and local communities. Currently, the global protected area system, as presented in the WDPA, is dominated by state-managed protected areas.[25] However, there has been a general increase in the number and extent of protected areas with shared or private governance, or governance by indigenous peoples or local communities (figure 1). Recognizing and reporting OECMs, especially those that are co-managed, or managed by private stakeholders or indigenous peoples and local communities, while ensuring the governance authority has the right to withhold or give its consent regarding this recognition, may improve the diversity of governance arrangements represented in the global system of protected and conserved areas. "OECMs should strive to be 'equitable' and accord with human rights norms recognised in international and regional human rights instruments and in national legislation."[26] Recognition of OECMs, and the application of social assessment methodologies within these sites, may help to improve the three key dimensions of equity applied to protected and conserved areas (recognition of rights, procedure to promote participation in management decision making, and distribution of costs and benefits).[27]

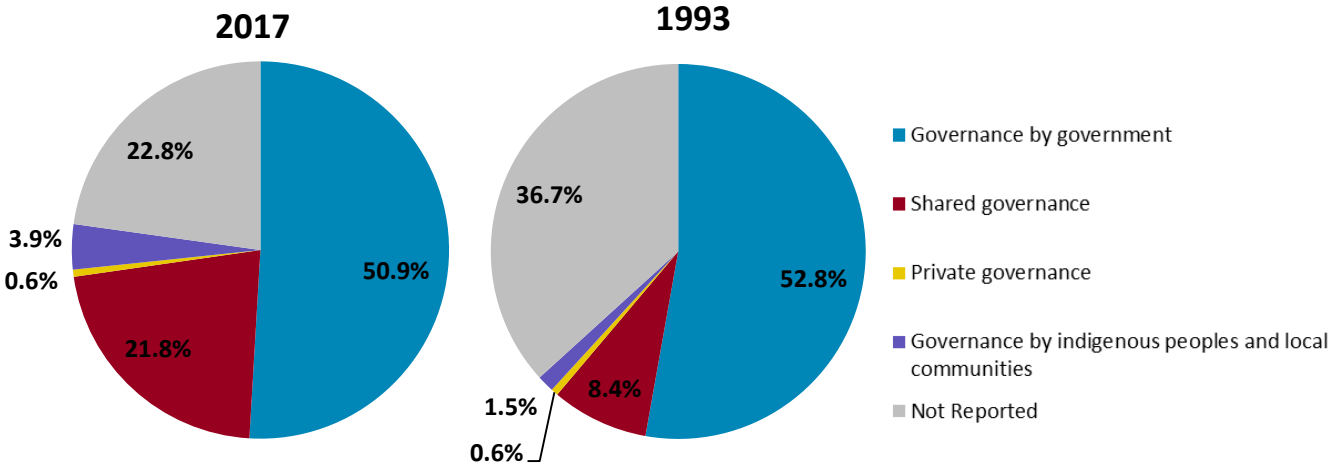

Figure 1 Percentage of area covered by governance types for protected areas in the WDPA in 2017, and those designated prior to 1993; based on data in the December release of the WDPA (UNEP-WCMC and IUCN, 2017a).

[24] IUCN WCPA (2018).

[25] UNEP-WCMC and IUCN (2017a).

[26] IUCN WCPA (2018).

[27] Schreckenberg, K., Franks, P., Mar□n, A., and Lang, B. (2016). Unpacking equity for protected area conservation. *Parks*, 22(2), 11-25.

III. CONTRIBUTIONS TO OTHER AICHI BIODIVERSITY TARGETS

20. Beyond contributing to all elements of Target 11, OECMs may also provide benefits to other Aichi Biodiversity Targets, similar to the benefits provided by protected areas.[28] Examples of some of the potential direct contributions of OECMs to other Aichi Targets are presented in the following paragraphs.

21. Target 5 requires reducing the rate of loss of all natural habitats, and significantly reducing degradation and fragmentation. Effectively and equitably managed protected areas and OECMs provide an important means to achieve this target, by ensuring the long-term *in-situ* conservation of nature, preventing the loss of natural habitats, and slowing degradation and fragmentation of natural ecosystems. Many ICCAs, some of which may be recognised as OECMs, "are managed explicitly or implicitly to deal with ongoing loss of habitats, degradation and fragmentation."[29]

22. Target 6 is focused on the sustainable management and harvesting of fish and invertebrate stocks and aquatic plants. Some marine protected areas and OECMs may promote the sustainable use of marine biological resources, and "can help ensure that exploitation of the elements of biodiversity in the wider seascape is sustainable by: providing benchmarks against which the effects of management decisions can be evaluated … and/or provide 'spillover' benefits in the wider seascape."[30] For instance, most locally managed marine areas (LMMAs) "are established and managed with sustainable fisheries as an objective, and many also aim to or result in the conservation of non-fished species."[31]

23. For Target 7**,** areas under agriculture, aquaculture and forestry should be managed sustainably, ensuring the conservation of biodiversity. Protected areas and OECMs, "embedded within areas managed primarily for agriculture, aquaculture, or forestry can help ensure that such activities do not cause irreversible biodiversity loss over wider landscapes by providing benchmarks against which the effects of management decisions can be evaluated, 'insurance policy' and 'seed source' functions to enable recovery from management failures, 'spillover' benefits, and contributions to connectivity in the wider landscape."[32] OECMs established to protect ecosystem services within sustainably managed production systems, which do not compromise the long-term conservation of biodiversity, may contribute to progress towards Target 7. A potential OECM, could include "traditional management systems that maintain high levels of associated biodiversity" including "certain agricultural systems that maintain native species and their habitat, such as pastures of native grassland managed in ways that support livestock grazing while maintaining native biodiversity," which may also contribute to Target 7.

24. Target 10 aims to minimize the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification, so as to maintain their integrity and functioning. Some of the anthropogenic pressures on coral reefs, and other vulnerable ecosystems may be offset by OECMs, by reducing habitat degradation and species overexploitation. Many community-managed sites in marine areas contain coral reefs, mangroves, and other vulnerable marine and coastal ecosystems, and may help in their long-term conservation and management.[33] A potential OECM contributing to Target 10 could include "territories and areas managed by Indigenous Peoples and/or local communities (or sections of these areas) to maintain natural or near-natural ecosystems, with

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[28] SCBD (2016), Contribution of Aichi Biodiversity Target 11 National Priority Actions Identified in Regional Capacity-Building Workshops to Other Aichi Biodiversity Targets, UNEP/CBD/COP/13/INF/20. Available at: https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-20-en.pdf. See also: UNEP-WCMC and IUCN (2016).

[29] Kothari, A. and Neumann, A. (2014), *ICCAs and Aichi Targets: The Contribution of Indigenous Peoples' and Local Community Conserved Territories and Areas to the Strategic Plan for Biodiversity 2011-20*. Policy Brief of the ICCA Consortium, No. 1, co-produced with CBD Alliance, Kalpavriksh and CENESTA and in collaboration with the IUCN Global Protected Areas Programme.

[30] IUCN WCPA (2018).

[31] Kothari and Neumann (2014).

[32] IUCN WCPA (2018).

[33] Kothari and Neumann (2014).

low levels of use of natural resources practised on a sustainable basis and in a way that does not degrade the areas' biodiversity."[34] A specific example could include the "traditional harvesting of kelp and herring roe practised by the Haida people" or other "coastal and marine areas where local community-based harvesting and management practices result in *de facto* conservation of fish populations and other associated marine biodiversity."[35]

25. Target 12 calls for halting the extinction of known threatened species and improving their conservation status. Increasing the coverage of protected areas and OECMs can contribute significantly to reversing negative trends in conservation status and avoiding the extinction of threatened species.[36] With the focus of OECMs on biodiversity outcomes (regardless of their management objectives), they are very much aligned with the requirements of Target 12. Some ICCAs have species conservation as an explicit objective, and many more, where it may not be an explicit objective, still have the protection of threatened species as an outcome.[37]

26. Target 14 refers to the restoration and safeguarding of essential ecosystem services. OECMs will protect a wide range of ecosystem services, and may often be established to protect essential ecosystem services, as long as they ensure the long-term *in-situ* conservation of biodiversity. For marine areas, "this might be maintenance of coral reefs or mangroves as part of coastal protection against storms and ocean surge." With respect to freshwater resources, one study found that a majority of the world's population lives in communities downstream of protected areas, and thus contains potential users of freshwater services they provide.[38] Some ICCAs "are explicitly managed for maintaining or enhancing ecosystem functions such as securing watersheds, and result in enhanced social and economic well-being of the relevant communities," while "community forests in many countries in Asia and Africa provide a host of ecological functions, including hydrological and nutrient flows."[39] Additionally, sacred natural sites, which have the potential to be recognised as OECMs, "are widespread across the world, and provide crucial cultural, psychological and well-being benefits."[40]

27. Target 15 focuses on enhancing ecosystem resilience and the contribution of biodiversity to carbon stocks, through conservation and restoration. Effectively managed protected areas and OECMs "because of their generally higher levels of ecological integrity than exploited landscapes and seascapes, are often more resilient, more diverse, and store more carbon."[41] While "conservation and maintenance of natural ecosystems is a key objective and achievement of ICCAs across the world," some of which may be considered as OECMs, often communities "are *not* managing these sites to deal with climate issues, but for many other reasons, and climate resilience is more a by-product."[42]

IV. CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS (SDGS) AND OTHER MULTI-LATERAL ENVIRONMENTAL AGREEMENTS

28. Synergies also exist between actions taken to achieve Aichi Biodiversity Target 11 and improving progress towards achievement of several goals and targets of the 2030 Agenda for Sustainable Development. For example, the conservation of biodiversity through the establishment of OECMs, as one

[34] IUCN WCPA (2018).

[35] IUCN WCPA (2018).

[36] Watson J.E.M. et al. (2014), The performance and potential of protected areas, *Nature*, 515: 67–73.

[37] Kothari and Neumann (2014).

[38] Harrison I.J., et al. (2016), Protected areas and freshwater provisioning: a global assessment of freshwater provision, threats and management strategies to support human water security, *Aquatic Conservation: Marine and Freshwater Ecosystems*, 26: 103–120.

[39] Kothari and Neumann (2014).

[40] Kothari and Neumann (2014).

[41] IUCN WCPA (2018).

[42] Kothari and Neumann (2014).

means for achieving Target 11, will also support the ecosystem services which underlie several of the Sustainable Development Goals (SDGs). Care should be taken, however, given the potential interactions and trade-offs between SDGs,[43] especially with respect to those targets that rely on, or will impact, biodiversity. Some examples of the potential direct benefits OECMs may have for the SDGs are provided below.

29. SDG 2 aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Protected areas and OECMs may enhance food security through "basic supporting services such as soil production and stabilisation of water supplies; buffering against climate-related shocks; promoting sustainable agriculture such as organic production within Category V protected landscapes securing fish stocks in marine protected areas,"[44] which will have benefits for targets like 2.1 and 2.4 of SDG 2. Protecting ecosystem services, including provisioning services, "will be a frequent driver in the recognition of OECMs. However, management to enhance one particular ecosystem service should not impact negatively on the site's overall biodiversity conservation values."[45] Traditional agricultural management systems maintaining high levels of associated biodiversity, if managed in ways that support agricultural production while maintaining native biodiversity over the long term, could be considered for designation as OECMs, and will support progress on SDG 2.

30. SDG 6 calls for ensuring the availability and sustainable management of water and sanitation for all. Many cities around the world get a significant portion of their drinking water from within protected areas.[46] Watershed conservation areas, as potential OECMs, provide an opportunity for synergy between actions taken to reach Aichi Target 11 and targets 6.1, 6.5 and 6.6 of SDG 6. As an example, long-term "watershed protection policies and management may result in effective protection of biodiversity in watersheds, even though the areas may be managed primarily for objectives other than conservation,"[47] which will support improvements in the status of SDG 6.

31. Target 11.7, under SDG 11 (Sustainable Cities and Communities), states: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. Protected areas and OECMs may provide important buffers for cities, providing "important urban and periurban green space and for wetlands, coastal vegetation and mountain forests to provide an important disaster risk reduction function."[48] Some "urban or municipal parks managed primarily for public recreation but which are large enough and sufficiently natural to also effectively achieve the *in-situ* conservation of biodiversity (e.g. wild grassland, wetlands) and which are managed to maintain these biodiversity values"[49] may be considered as potential OECMs and would contribute directly to target 11.7. Additionally, target 11.4 calls for strengthening efforts to protect and safeguard the world's cultural and natural heritage; this may be enhanced through the establishment of OECMs.

32. The aim of SDG 13 is to take urgent action to combat climate change and its impacts. Protected areas and OECMs may help to maintain ecosystem integrity, buffer local climate, and reduce risks and impacts from extreme events such as storms, droughts and sea-level rise, supporting the achievement of target 13.1. As well, the role of OECMs in promoting connectivity of protected area networks can improve resilience by increasing the redundancy of protected species while facilitating range expansions

[43] Nilsson, M. et al. (2016), Map the interactions between Sustainable Development Goals, *Nature* 534, 320–322.

[44] Dudley, N. et al. (2017), Editorial Essay: Protected Areas and the Sustainable Development Goals, *PARKS*, 23.2, 9-13.

[45] IUCN WCPA (2018).

[46] Dudley N. and Stolton, S. (2003), *Running Pure: The importance of forest protected areas to drinking water*, A research report for the World Bank / WWF Alliance for Forest Conservation and Sustainable Use.

[47] IUCN WCPA (2018).

[48] Dudley, N. et al. (2017).

[49] IUCN WCPA (2018).

caused by changing climates. OECMs may also limit further carbon emissions caused by degradation and development, enhance sequestration of carbon dioxide from the atmosphere in natural ecosystems, and contribute to an overall strategy for climate change mitigation. As ecosystem degradation and loss are a major cause of greenhouse gas emissions, effectively and equitably managed OECMs can aid in climate change mitigation by slowing (or reversing) this degradation and loss.

33. SDG 14 calls for conserving and sustainably using the oceans, seas and marine resources for sustainable development, while target 14.5, which calls for conserving 10% of coastal and marine areas is drawn directly from Aichi Biodiversity Target 11. The designation of both protected areas and OECMs will support this 10% conservation target. They may also help to increase the resilience of marine ecosystems, and support other aspects of SDG 14, like targets 14.2, 14.4 and 14.7. In Japan, some "forests and other ecosystems upstream of a fishery production system are protected as 'fisher forests' or 'fish-breeding forests', to help optimise fish productivity through nutrient run-off and other beneficiary interlinkages,"[50] and represent potential OECMs, with benefits for SDG 14.

34. Protected areas and OECMs will provide important means for reaching SDG 15, and its aim to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Some of the targets of SDG 15 are aligned with the aims of Aichi Biodiversity Target 11, while protected area coverage of terrestrial, freshwater and mountain KBAs provide indicators for two of the targets under SDG 15 (15.1 and 15.4). As noted above, OECMs may offer one avenue for protecting important sites for biodiversity, like terrestrial, freshwater and mountain KBAs, and will have direct positive impacts on these two targets of SDG 15. OECMs may also play a role in reducing deforestation, and promoting restoration of degraded ecosystems.

35. Effectively and equitably managed protected areas and OECMs, integrated into the wider landscape and seascape, will provide both direct and indirect benefits for many other goals and targets of the 2030 Agenda for Sustainable Development.[51] They will also support synergistic implementation of requirements in other multi-lateral environmental agreements. For example, OECMs which help to stop and reverse the loss and degradation of wetlands will support implementation of the Ramsar Convention. Notably, effectively managed OECMs that are established in ways that help to address the drivers of wetland loss and degradation, Ramsar COP12, Resolution XII.2.8, and Target 5, 6 and 7 of the Ramsar Strategic Plan 2016-2024.

36. OECMs designated to enhance ecological networks and connectivity will support Convention on Migratory Species (CMS) Resolution XI.25.7, while OECMs that are established to promote the sustainable use of intertidal wetlands and other coastal habitats of importance for migratory species worldwide will support CMS Resolution XII.25.1.

37. Finally, as noted earlier, some OECMs will provide benefits for both climate change adaptation and mitigation, through preventing the loss of carbon from existing vegetation and soil, sequestering further carbon dioxide in natural ecosystems, and through the maintenance of ecosystem integrity. These benefits will support implementation of the Paris Climate Agreement, which has been signed by all Parties to the Convention on Biological Diversity.

V. CONCLUSIONS

38. OECMs may contribute to all elements of Target 11, as well as to other Aichi Biodiversity Targets, to relevant goals and targets of the 2030 Agenda for Sustainable Development, and to relevant

[50] Kothari and Neumann (2014).

[51] See for instance: SCBD (2016b), Contribution of Aichi Biodiversity Target 11 to the Sustainable Development Goals: Potential impacts of national priority actions identified in the regional capacity building workshops, UNEP/CBD/COP/13/INF/19, Available at: https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-19-en.pdf; Dudley, N. et al. (2017), *Protected areas helping to meet the Sustainable Development Goals*, Available at: https://www.iucn.org/sites/dev/files/natural_solutions_-_sdgs_final_2.pdf.

requirements of other multi-lateral environmental agreements. In order to realise these multiple benefits, proper definition and identification, management and mainstreaming of OECMs is necessary.

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