

Commission on Ecosystem Management (CEM) Report 2017–2021

Chair: Angela Andrade

1. Mission

To provide expert guidance on integrated approaches to the management of natural and modified ecosystems to promote effective biodiversity conservation and sustainable development.

2. Vision

Healthy, resilient ecosystems that conserve nature and sustain life.

3. Goal

Ecosystem approaches to natural resource management mainstreamed worldwide.

4. Objectives

To promote the adoption of, and provide guidance for, ecosystem-based approaches to the management of landscapes and seascapes; provide authoritative guidance and support for ecosystem-based management; and promote resilient socio-ecological systems to address global changes.

5. Priorities and achievements

The technical capacity of the Commission comprises a network of **1.807** members of which 424 are young professionals. These volunteer specialists are organised in 16 thematic groups, 14 specialist groups and 3 task forces, throughout 14 regions¹. The CEM [Young Professional Network](#) mandate is to promote young professional engagement (under 35 years old) in all the Commission's technical groups and regional/national efforts. CEM was actively present and contributed in the development of activities framed within international political processes such as: 1) the assessments developed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); 2) processes in the UNFCCC (COP 22, 23, 24 and 25) in themes such as EbA ; 3) high level meetings on climate change and biodiversity, about EbA and NbS; 4) negotiations of the CBD COP 13 and 14, contributing in the themes of ecological restoration, EcoDRR, EbA, NbS, OEBCM, EBSAs, implementation of Aichi Target 6 and 14, and the post-2020 Agenda; and 5) CITES and FAO on fisheries. Knowledge products and activities developed by the Commission, its groups, regions and membership include:

- 87 academic papers and more currently under peer review
- 9 scientific books
- 4 special issues in journals led by CEM leaders

¹ Besides the 13 regions that CEM had in 2012–2016, West and Central Asia was divided into two CEM regions during this intersession: West Asia comprising Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, United Arab Emirates, and Yemen; and Central Asia comprising Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

- 32 international events with CEM contributions
- 26 workshops organised or joined by CEM
- 50 webinars promoted by CEM
- 7 training/disseminating courses
- 10 MOOCs (Massive Open Online Course)
- 8 thematic or specialist newsletters
- 3 blogs (with more than 60 entries just in the [YPN blog](#))
- 10 social media accounts
- 30 languages used to communicate about sustainable use in [Naturalliance](#) network
- YouTube channels ([CEM](#), [Restoration TG](#), [S. Asia](#))
- Magazine ([Harnessing Nature](#))
- [7 CEM Dialogues](#) on the proprietary themes of 2020–2021
- 13 CEM [Newsletters](#)

THEMATIC GROUPS (TG):

[Red List of Ecosystems \(RLE TG\)](#) leads the way in Ecosystem Risk Assessment for CEM. The TG is tireless in its production and summarising its great results and achievements during this period is a difficult task. For more comprehensive and full information about their energetic work, visit their [website](#). RLE has a steering committee which has met three times during this period. One of the greatest results of RLE is the quantity of national ecosystem assessments (+25) and other knowledge products made available. Among them are: the RLE Application Guidelines v1.1 (2017), RLE online technical forum (launched 2017), the Training Programme for Assessors, the exercises in developing conceptual models of ecosystems, as well as [assessing restoration priorities for high-risk ecosystems](#). Training has been offered through workshops and webinars spanning in wide range of countries. A [free open course](#) on FutureLearn was offered by Deakin University (2020) as an introductory course to IUCN-RLE with more than 1.869 learners participating. The [Global Ecosystem Typology \(v1.01\)](#) is a key achievement. The [website](#) was launched in July 2020. This classification is a fundamental tool because it allows categorisation into different hierarchies managing to unify in a general way the global classification of ecosystems allowing researchers around the world to follow the same protocol for ecosystem assessments. The report describing details of the typology structure and the descriptive profiles for all Ecosystem Functional Groups is [now available](#). This work is supported by IUCN and scientific publications, one of which is currently under peer review. RLE has collected numerous publications during this period including over 13 regional or national [published assessments](#). RLE has established an ongoing engagement with the [UN System of Environmental Economic Accounting \(SEEA\)](#) review process including agreements for the IUCN Global Ecosystem Typology as the recommended classification framework for ecosystem accounting. In 2020, the IUCN French Committee has published the RLE assessment of 9 ecosystems occurring on the sandy shores of the French Mediterranean coast, a work led in collaboration with UMS PatriNat (OFB, MNHN, CNRS). The 3rd CEM Dialogue presents the Global Ecosystem Typology: <https://youtu.be/2JqfK1qjBpl>.

[Nature-based Solutions \(NbS TG\)](#): The NbS TG contributed by providing the scientific and academic basis for the implementation of IUCN [Resolution 069](#) that was adopted at the IUCN World Conservation Congress (Hawai'i, 2016). Many CEM leaders contributed to the development of the NbS Standard which was adopted by Council (98th meeting) and officially launched on July 23, 2020 where CEM played a key role. [The CEM Chair was among the speakers](#), highlighting the role that the Commission will continue playing with the scientific committee to be established. The publication [Core principles for successfully implementing and upscaling Nature-based Solutions](#) in the journal *Environmental Science and Policy* (v.98) endorses a review of principles, proposes criteria and indicators for the Standard, and

positions NbS in the academic community. This result is exemplary of the high-level work and commitment of the CEM leadership and membership in building and delivering on knowledge products and advancing concepts. An additional publication on NbS – for a policy audience – is the [Genèse des Solutions fondées sur la Nature : quand, comment et pourquoi ce concept a-t-il été développé](#) of the French agency [Observatoire national sur les effets du réchauffement climatique](#). CEM NbS contributions in other publications include: 'NbS for managing water quality' (Chapter 3) in [The United Nations World Water Development Report 2018: Nature-Based Solutions for Water](#); and [Outsmart climate change: work with nature! Enhancing the Mediterranean's climate resilience through Nature-based Solutions](#). The CEM NbS TG also participated in the [International Workshop on NbS in the Mediterranean in Marseille](#); the [Think Nature platform webinar](#); a Europarc 2019 side-event; and gave a [keynote presentation for the Ecosystem Services Partnership \(ESP\) World Conference](#) (Hannover, 2019). CEM regions also organised events about NbS such as: 3rd Latin-American and Caribbean Congress on Protected Areas (CAPLAC); NbS exchange of experiences; *Sistemas de áreas protegidas inmersos en paisajes productivos sostenibles: Experiencias de Centro y Sur América*. The CEM NbS TG supported and prepared the launch of the [IUCN Global Standard for Nature-based Solutions](#) (July 2020). The CEM NbS TG also promoted and raised awareness on the Global Standard on NbS through many activities such as webinars and presentations in different areas around the world, including the [2nd CEM Dialogues "IUCN Global Standard for Nature-based Solutions"](#).

[Ecosystem Restoration \(ERTG\)](#): CEM organised together with the Society for Ecological Restoration (SER) the Forum on Biodiversity in Global Forest Landscape Restoration (Iguassu, Brazil, 2017), which focused on three broad themes: 1) Assessing and prioritising restoration actions; 2) Promotion of international standards for ecological restoration; and 3) Policy and governance needs for inclusion of biodiversity in restoration. The Forum results included the identification of over 20 Priority Actions. A follow-up Forum on The Role of Ecological Restoration in Achieving Global Biodiversity Targets: Broadening the Post-2020 Framework was held in Johannesburg (2019) with CEM leaders and members who discussed challenges, solutions, and priority actions with regard to elevating ecological restoration as a mechanism to meet post-2020 biodiversity targets and goals; incorporating principles and standards for restorative activities into large-scale restoration initiatives; and balancing the delivery of ecosystem services for human wellbeing with protection and restoration of biodiversity. The Forum resulted in a list of 14 priority strategic actions to improve capacity for ecosystem restoration. The CEM ERTG played a leading role in the development of the *International Principles and Standards for the Practice of Ecological Restoration* developed by the Society for Ecological Restoration, in partnership with more than a dozen other organisations around the world. In 2019 IUCN and SER signed a Memorandum of Understanding to promote and contribute to the UN Decade on Ecosystem Restoration with the objectives of: a) increasing understanding about ecological restoration and its collaboration to allied restorative activities: rewilding, reforestation; b) promote international understanding, policy development and implementation of ecological restoration, and c) improve the development and dissemination of practical guidance, tools and technologies for ecological restoration. 3rd Global Restoration Forum: The ERTG, in conjunction with the Society for Ecological Restoration, and guidance from CEM leadership, are coordinating a multi-part high-level workshop to develop guidance on achieving net gain for biodiversity and human wellbeing through ecological restoration, restorative activities, and Nature-based Solutions. (March and April 2021). Ignite – Literature Review on Ecosystem Management and Human Health. In April 2020, they teamed up with CEM collaborators to develop a model of the relationship between ecosystem management and zoonotic disease transmission and to conduct a systematic literature to determine the degree of knowledge about linkages in the model. Webinar Series – Ecosystem Restoration: Global Initiatives in Science and Practice. UN Decade on Ecosystem Restoration. ERTG Lead represented CEM on three Decade task forces (Prioritisation, Monitoring, and Best Practices) and served as a co-lead of the Good

Practices Subcommittee, Best Practices Task Force. The CEM Chair served also as member of the Science Task force. Engagement included document review and comments on the Decade strategy. UN CBD Post-2020 Biodiversity Targets: The ERTG actively participated in reviewing documents related to the Post 2020 Biodiversity targets, with 6 members of the TG engaging in the process. ERTG will be participating alongside to the Third Global Forum with SER (Quebec, Canada), in the organising committee. The theme for 2021 is “Achieving net gain for biodiversity and human wellbeing: Integrating ecological restoration with other nature-based solutions”. There will be three tracks: 1) Defining net gain across the Restorative Continuum; 2) Prioritising restorative interventions; and 3) Developing common operationalising standards of practice across scales and disciplines. The long-term outcome is to develop a set of standards for restorative activities, which will satisfy the net gain in biodiversity, ecological integrity and human wellbeing. The TG initiated the monthly [webinar series “Ecosystem Restoration: Global Initiatives in Science and Practice”](#) to provide a forum for IUCN and CEM members to share knowledge on ecological restoration and to facilitate networking and direct engagement. All past webinars are accessible in the [ERTG YouTube page](#).

[Eco-Disaster Risk Reduction \(Eco-DRR TG\)](#): The main contributions of this TG were in diffusion of knowledge and training products, particularly through the MOOC: [Disasters and Ecosystems: Resilience in a Changing Climate](#) which in 2017 was so successful with 3,880 participants that a relaunch was done in 2018 with more than 5,700 participants. Eco-DRR TG also led the Special issue co-edition and contributed with several papers authored by CEM members on [Advancing Ecosystems and Disaster Risk Reduction in Policy, Planning, Implementation, and Management](#) (International Journal of Disaster Risk Reduction – IJDRR 2018); 4th workshop of Partnership for Environment and Disaster Risk Reduction -PEDRR (UN Campus, Bonn 2019); thematic session: *The Role of Green, Blue and Grey Infrastructure in Reducing Disaster Risk* (Global Platform for Disaster Risk Reduction- GPDRR), Issues brief: *The Role of Green, Blue and Grey Infrastructure in Reducing Disaster Risk Considering Green Infrastructure and Ecosystems in the Sendai Framework Monitor* (SFM); co-authoring by TG members: [Opportunities for considering green infrastructure and ecosystems in the Sendai Framework Monitor](#) (2019), book on [Disasters and Ecosystems: Resilience in a Changing Climate](#) (2019); Contribution to Words into Action publication: *Nature-based Solutions for Disaster Risk Reduction* (2020). CEM regions also contributed with Eco-DRR knowledge dissemination such as the publication [Adopting Nature-based Solutions for Flood Risk Reduction in Latin America](#).

[Ecosystem Services \(ES TG\)](#): contributed to the latest development and review of [the System of Environmental Economic Accounts \(SEEA\)](#) in a number of ways: 1) attended the Expert Group Meeting (2018), outcomes of which contributed to the conceptual thinking on ES, now developed into a technical paper and under global review; and 2) contributed a chapter to a SEEA discussion paper on the diverse conceptualisations of value, and the relationship between ecological and economic values in natural capital accounting. ESTG initiated the [Oceania Ecosystem Services Forum \(OESF\)](#). Underpinning the OESF's initiation was the recognition that people and nature must function together to address sustainability issues effecting the Oceania region; and addressing these issues will require dialogue and action from all sectors (community, government, business, academia, indigenous peoples, NGOs, finance) within and outside the Oceania region. The first face-to-face forum of the OESF was held in Brisbane, Australia (2017) and attracted ~200 people. A [2nd OESF](#) was hosted by [Scion](#) in Christchurch, New Zealand (2019). A special issue journal titled '[Ecosystem service addresses the sustainability issues of Oceania](#)' was edited by ES TG and Forest Ecosystems SG leaders – among others – and released in the *Ecosystem Services Journal* (2019). The ESTG lead also contributed in the commentary of [Ecosystem-based translation of health research: expanding frameworks for environmental health in a multidisciplinary initiative](#). The Forest Ecosystems SG has also extensively contributed with publications about ES:

[Ecosystem services under future oil palm expansion scenarios in West Kalimantan, Indonesia; Ecosystem Services from Forest Management Units in Eastern and Central Bhutan; Effects of land use and land cover change on ecosystem services in the Koshi River Basin, Eastern Nepal; China and India lead in greening of the world through land-use management.](#) Marine ecosystem services valuation project. In late 2020, the ESTG Co-Lead acted as external adviser to a marine ecosystem services valuation project for the Cook Islands (The Cook Islands contain the largest MPA in the world with the Marae Moana MPA). 3rd Oceania Ecosystem Services Forum (OESF). The ESTG Lead has begun preparations for the 3rd Oceania Ecosystem Services Forum (OESF) to be held virtually late 2021 in collaboration with WWF Fiji. The Co-Lead was also a co-author for the IUCN publication [Common ground: restoring land health for sustainable agriculture](#) (2020).

[Cultural Practices and Ecosystem Management](#) (CPEM TG): Focused on producing written work and contributing to CEM other priority areas and products. They aim to publish a compilation of case studies on cultural practices on ecosystem management in 2021 which they have been working on since a brainstorming session of the TG in 2017 where they defined the indicators to select relevant studies, comprising both positive and negative approaches to integrating cultural practices. The final publication will include case studies from around the world on ecosystems varying from rangelands to farming and cattle ranching to urban settings. The audience for the compilation will include ecosystem managers, local communities, and researchers. Several CPEM TG members also participated in the *Handbook of Indigenous Environmental Knowledge* (Routledge). The group is also leading a special issue on “Putting Culture back into Cultural Ecosystem Services (CES): Case Studies on Conservation and Development from the Global South.” This is being submitted to *Ecosystems and People* as a special issue to be out in 2021. CPEM leaders participated in work for the Nature-based Solutions standards, including contributing culturally relevant case study material to the guidance document and work to define the Science and Knowledge Committee role, as well as a webinar to promote the standard in November 2020. CPEM also continues to be a part of ICOMOS culture-nature journey group, the Ramsar Culture Network, and the Climate Heritage Network to exchange ideas on cultural issues in different ecosystem management situations. Pamela McElwee led various publications: Special issue: the CPEM co-leads are editing a special issue of the journal *Ecology and Society* on “Putting Culture back into Cultural Ecosystem Services (CES): Case Studies on Conservation and Development from the Global South.” Papers have been reviewed and approved and the Special issue will be out in 2021 with eight papers covering urban CES in Bangladesh; Indigenous peoples and landscapes in eastern India; landscape management in Kyrgyzstan; methodological dialogues on CES in Costa Rica; spiritual landscapes in protected areas in Tibet; the cultural impact of Eucalyptus plantations in Argentina; cultural practices and wildlife management in Kenya; and cultural aspects of fishery management in French Polynesia. There will also be an introduction written by the special issue editors. Several CPEM members have chapters in *The Handbook of Indigenous Environmental Knowledge* (Routledge), 2020. The TG also contributed to the development of the NbS Standard, and together with EG, hosted the [5th CEM Dialogue](#).

[Ecosystem Governance](#) (EG TG): The 2nd World Forum of Ecosystem Governance (WFEG) (Hangzhou, China, 2018) was hosted by the National Forestry and Grassland Administration (NFGA), IUCN and Hangzhou Municipal Government. CEM participated in its preparation and in the subsequent declaration emphasizing the need for further research on the impacts of linkages between ecosystems, social and natural capitals and their valuation, and public engagement. The EGTG has been active producing written material such as: [Complex problems and unchallenged solutions: bringing ecosystem governance to the forefront of the UN Sustainable Development Goals](#). It explores what ecosystem governance can be and how it may become an essential component to achieve the 2030 Sustainable Development Goals. Also, a compilation of rural-urban linkages and ecosystem governance with 11 case studies

was edited by EGTG leader and is being published in 2020. CEM leaders presented the paper *Integrating ecosystem-based adaptation and disaster risk reduction: a social-ecological system perspective on vulnerability and resilience* in the International Sociological Congress (Toronto, 2018) explaining that to achieve social-ecological resilience, assessing vulnerability is a fundamental step that is applicable to both ecosystem-based adaptation (EbA) and eco-disaster risk reduction (Eco-DRR). It argues that the integration of climate change adaptation with disaster risk reduction can effectively resolve the complex problems that humanity is facing. With CPEM and BR TGs, EGTG organised two sessions at the International Conference Communities, Conservation & Livelihoods (Halifax, Canada, 2018) entitled “Ecosystem governance in biosphere reserves for better conservation and livelihoods” and “Ecosystem-based climate change adaptation and mitigation: learning and sharing among cultures”. Rural-Urban Linkages and Ecosystem governance, the book aims to continue the discussion regarding this linkage between urban and rural ecosystems. It is the first attempt to put together cases studies and analyse common themes that can come up from all of them and further develop principles. The book has 11 chapters and is almost completed. Two newsletters were published, each with information about events and recent publications in 2020: March 2020 with call for participation to the new survey on definition of EG and April 2020. The principles for ecosystem governance have been presented during the [6th CEM Dialogue "Developing principles for ecosystem governance to ensure net gain in biodiversity, ecosystem services and human wellbeing"](#).

[Ecosystem Resilience \(RTG\)](#): This TG worked on ecosystem resilience and the communities that depend on their services and proved to be a cross-cutting theme engaging several other CEM technical groups. The TG provided guidance and knowledge products that apply social-ecological systems science to better understand global societal challenges, and to promote more effective ecosystem and natural resource management. Its activities and contributions include: (1) a training at the 2017 International Congress for Conservation Biology; (2) the Promise and Practice of Resilient Landscapes blog totalling 1,190 visits and 2,479 views; (3) a Research Network linking the RTG with CPEM and EG TGs; (4) a presentation at the 2018 highly successful networking event at the Resilience 2017 Conference (Stockholm); (5) a resilience assessment training at the Chinese Academy of Sciences in Xishuangbanna, with a report posted on the IUCN portal; (6) two events at the Halifax meeting of the Community Conservation and Livelihoods World Congress of Sociology, with the underlying paper prepared by the CEM Governance TG Resilience TG chairs. The leaders propose creating an IUCN network that supports transformational process and applies SES concepts to the societal challenges of biodiversity loss and climate change. RTG released a newsletter in June, as an experiment with alternative communications. Obtaining submissions from core group and general group members was difficult. posted a handful of short blogs ([resilientlandscapes.blog](#)). Page views remained steady, while total site visits increased substantially, despite the few number of posts. This likely has to do with an important post that announced the release of a discussion paper on transformative conservation. The RTG contributed to the Restoration Thematic Group’s Global Initiatives in Science and Practice webinar series. RTG leadership presented in November on a forest and watershed landscape resilience project in California, USA and some thoughts about.

[Business and Ecosystem Management \(B&EM TG\)](#): This TG led the two Massive Online Open Courses (MOOC) *Landscape Restoration for Sustainable Development: A Business Approach*, the first of the so-called ENABLE consortium and an initiative from Commonland – which manages this TG. Commonland, together with the consortium known as [ENABLE](#) (the European Network for the Advancement of Business and Landscape Education) composed by the Rotterdam School of Management, Estoril Conferences, CSIC and UN’s Land Restoration Training Programme and co-funded by the Erasmus+ programme of the EU – took the initiative to develop this online course specifically geared towards the nexus of landscapes and business. The training tool aims to provide the next generation of business

leaders with an ecosystems' view, ready to include landscape-related issues in their decision-making processes. Commonland's 4 returns framework and zoning approach are an integral part of the curriculum. The publication [*New Horizons for the Transitioning of our Food System: Connecting Ecosystems, Value Chains and Consumers*](#) is a report developed by Commonland in collaboration with NewForesight. The report presents the complex challenges we face with the current food system, and highlights opportunities to forge a path towards a more sustainable future. The TG has also provided the lectures: *Creating business cases on ecosystem restoration*: [Reporting 3.0 2019 Conference – Implementing Thriveable Transformation](#) and [Saline Futures Conference Addressing Climate Change and Food Security](#). It is participating in the think tank of the [UN Decade on Ecosystem Restoration](#).

The [*Sustainable Use and Management of Ecosystems*](#) (SUME TG) has been very active in organising a global multilingual platform to be accessible in 55 languages in [Naturalliance](#) which was launched in April 2019. Currently it is available in more than 27 languages and presents ecosystem management concepts and case studies, specially discussing [Valuing and sustaining wild resources](#); [Protecting, restoring and enhancing nature, in cities and the countryside](#); [Helping nature's riches adapt to change](#); [Making laws that enable local people to engage and benefit](#); [Aiding ecosystem-safe action against disease and unwelcome species](#). SUME also held regional meetings in Kyrgyzstan (2017), Peru (2017) and Croatia (2019). European Sustainable Use Group: SUME has assisted European Sustainable Use Group in a bid for European Commission Green Deal funding under a call for Restoration of Biodiversity and Ecosystem Services in the H2020 programme. 'RE-BIO' would extend our multilingual networking to support scaling ecosystem restoration from community level upwards. [www.perdixnet.org](#) network: the TG continued to work with another IUCN international Member to maintain their joint [www.perdixnet.org](#) network to promote restoration of agricultural ecosystems, to upgrade our joint [www.sakernet.org](#) to 10 languages and to build a global 'falconnet' for them.

The [*Biosphere Reserves*](#) (BR TG), together with the Ecosystem Governance and Cultural Practices TGs, organised two sessions at the [International Conference: Communities, Conservation & Livelihoods](#) (2018) "Ecosystem governance in biosphere reserves for better conservation and livelihoods" and "Ecosystem-based climate change adaptation and mitigation: learning and sharing among cultures". The book [UNESCO Biosphere Reserves: Supporting Biocultural Diversity, Sustainability and Society](#) contains several chapters of CEM leaders and members. BR TG developed four [thematic newsletters](#) during this session with articles from around the world.

[*Ecosystem-based Adaptation and Mitigation*](#) (EbAM TG) offered research on [Transformational adaptation on the farm: Processes of change and persistence in transitions to 'climate-smart' regenerative agriculture](#). Some CEM regions also worked on the EbA theme with webinars such as: 1) IUCN SUR experiences in Ecosystem-based Adaptation; and 2) Ecosystem based Adaptation (EbA) and Human well-being in Mesoamerica; and with publications like [Gobernanza para la adaptación basada en ecosistemas](#), a joint publication on governance together with the Environmental Law Centre and ORMACC. EbAM TG also worked on the Ignite project, providing literature review on the linkages between zoonoses and disease emergence and transmission and climate change. The CEM Chair has made several presentations on EbA at different climate change conferences, including the Climate Change COPs 22, 23, 24 and 25, as well as COP 14, when the Guidelines on EbA and ECO-DRR were adopted by the CBD.

[Ecosystems and Invasive Species](#) TG: This TG played a key role incorporating Indigenous and Spiritual and Cultural Connections and Perspectives into the work of the Thematic Group which is also a key aspect of the IPBES Assessment. Invasive Species Thematic Group overarching Goal and prioritisation around Water was developed to align with the IPBES Conceptual Framework and all our activities have continued that alignment. During 2020, the Ecosystems and Invasive Species Thematic Group has played a key role in advancing the topic of invasive species, particularly focussing on [restoration](#) of biodiverse places invaded by invasive species. This has been highly relevant as 2021 is the UN Decade on Restoration. Many of the members have had ongoing involvement with the IPBES Invasive Species Assessment, <https://ipbes.net/invasive-alien-species-assessment> which also provides opportunities to members to ensure their work is incorporated into that Assessment. The Ecosystems and Invasive Species Thematic Group is working with numerous collaborators on the Thematic Groups Case Study of Best Practice which will be available at the IUCN Congress. The case study document you will be able to implement this approach wherever you are across our global community. Australia suffered serious bush fires at the end of 2019 and the beginning of 2020. In this regard, the TG was invited to speak in a webinar series focussing on weed invasion post fire that also included the work of the TG. Webinar 1: https://www.swift.net.au/cb_pages/weed_management_after_fire_-_webinar_series.php

[Rewilding](#): This group started as a Task Force in 2018 and became a TG in 2020. It aims to synthesise and streamline the theory and practice of rewilding through a sharing of experience within the wider (and growing) rewilding community. The TG has worked to develop a more unified and cohesive understanding of the rewilding approach that is both science-based and community-focused; explores ecological restoration in terms of a wildness continuum approach with an outcome of becoming increasingly 'nature-led'. One of the main achievements of this TG has been to propose draft guiding principles for rewilding. In this direction it has developed an online survey with rewilding pioneers and two expert workshops in London, UK and Florida, USA (2019) to discuss the draft principles which should be further developed in the next intersession. They were invited to join the Global Rewilding Alliance (GRA). They did a presentation at the Assessment and Management of Natura Freshwater Habitats Workshop (NatureBureau): Driving forward rewilding initiatives in Europe – opportunities for restoring Natura freshwater and wetland habitats. They did another presentation at Green Lancaster: "Overview of rewilding. Rise of Rewilding and its Role within Ecosystem Restoration" (ERTG webinar series). The TF carried out a number of wider engagement and consultation activities; from working with 'rewilding pioneers' on the history of rewilding, through to working with rewilding and ecological restoration practitioners and academics around the world to develop a universal set of rewilding guiding principles (RGPs) to help establish some 'rewilding common ground'. Several papers have been published in 2020: You can access them [here](#). The [Rewilding Principles](#), which are now available as a [PDF](#) from the CEM RTG website, were submitted as an academic paper to the journal *Conservation Biology*, and the paper was accepted in early 2021.

[Human Health and Ecosystem Management](#): Created as a task force in 2018, it became a TG in 2020 (HH&EM TG). It established a core group with members led by EcoHealth Alliance and GEO BON. The TG is having increasing relevance due to the current global pandemic and organised two webinars, one in [Spanish](#), the other in [English titled X-Rays of a Pandemic](#), emphasizing on how human health – focused on Emergent Infectious Diseases (EID) – and zoonotic events are directly linked to ecosystem management. The TG calls for an increase of interdisciplinary and regional work to produce critical information that breaks the chain of transmissions, prevents future outbreaks of zoonotic events and advises public policies to deal with EID beginning by adequate ecosystem management. This TG also led an inter-group initiative called the *Ignite Team* with other CEM TG [exploring the links between restoration, rewilding and human health](#). A [first webinar](#) about this was done in June 2020 as part of the [Ecosystem Restoration webinar series](#). [Human Health and Ecosystem Management](#) played a

leading role in Ignite Group exploring connections between zoonotic diseases, human health and well-being, ecosystem degradation and biodiversity loss. They also participated in various webinars, in [English titled X-Rays of a Pandemic](#), (Pulse of the Planet webinars, English and Spanish) and Exploring Restoration, Rewilding and Human Health.

The [Impact Mitigation and Ecological Compensation TG \(IMEC TG\)](#): established in 2020 thanks to a transdisciplinary initiative of scholars and practitioners. IMEC TG aims to develop guidance around implementation of the mitigation hierarchy and ecological compensation. It will do this based on ongoing case study review of policy and practice regarding mitigation and compensation design, governance, financing and implementation, building upon significant existing experience and lessons learnt by numerous stakeholders. The first IMEC webinar was hosted in 2020. It comprised a series of short presentations from experts across sectors on Charting the future: next steps in impact mitigation and ecological compensation, followed by a Q&A and panel discussion. Leading experts on impact mitigation from industry, government, and civil society organisations explained their involvement, shared their knowledge and set out what they see as the most important next steps in this space. The TG also hosted a joint online meeting Joint meeting of the Science-based Targets Network Biodiversity Hub, IMEC TG, and the Mitigation and Conservation Hierarchy team to discuss common ground. The three groups have much in common in terms of the topics and challenges addressed, and it was agreed there is plenty of scope for ongoing collaboration and alignment. Future meetings are planned, and IMEC TG members will be kept updated about opportunities to participate. Read more about the [Science-based Targets Network here](#) and the [Mitigation and Conservation Hierarchy here](#).

SPECIALIST GROUPS (SG):

The [Agroecosystems SG](#) was established in 2017 Some of the main results have been: a strategic paper on managing Agroecosystem for UN-SDGs with the involvement of CEM members from India and Australia: [“Steering the restoration of degraded agroecosystems during the UN Decade on Ecosystem Restoration”](#) ; and the IUCN report [Common ground: restoring land health for sustainable agriculture](#). The Agroecosystem Specialist Group conducted a special session on “Managing Agroecosystems for UN-SDGs” during the National Workshop on Environmental Sustainability: Innovations, Translational Dimensions and the Way Forward, Dept. of Environmental Sciences, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, February 10-12, 2020. The Group contributed to the publication of a special issue in *Land Journal of MDPI* on [“Restoring Degraded Lands to Attain UN-SDGs”](#), a special issue for the *Agronomy Journal of MDPI* on [“Wild Crop Relatives and Associated Biocultural and Traditional Agronomic Practices for Food and Nutritional Security”](#). It has done the external review of the UNEP document ‘Global Resources Outlook 2019’ (P.C. Abhilash) and contributed to the chapter ‘Land Degradation and SDG Goal 1’ and to the Chapter ‘Land Degradation and SDG Goal 2’ (<https://www.resourcepanel.org/reports/land-restoration-achieving-sustainable-development-goals>).

The [Coastal Ecosystem SG \(CE SG\)](#) contributed with the advancing of the conceptualisation of resilience of coastal ecosystems with the publication [Facing the future: Conservation as a precursor for building coastal territorial cohesion and resilience](#); the participation in the [Fourth International Marine Protected Area Congress \(IMPAC4, Chile\)](#) with several workshops and interventions on coastal resilience (2017); the organisation of a workshop on resilience and MPAs in South East Brazil (2018), the production of MPAs Resilience Guidelines for MPAs managers (2019), and the organisation of the Mexico Cozumel workshop on resilience and MPAs with the Transatlantic MPA network programme; development of a territorial survey and mapping of coastal habitats in order to integrate natural infrastructures and ecosystem services for adaptation and risk reductions policies and for the update the urban management

plan of Libreville, Gabon – Central Africa; development of an online MPA resilience self-assessment tool, tested in more than 10 different MPAs of the Atlantic Ocean and Western Indian Ocean. The CE SG leaders organised and led the Coastal Resilience workshop in Mozambique together with the IUCN Mozambique office after the CEM SC meeting (2018). The workshop had the participation of state agencies and NGOs. The Group also led the development of inception concept notes for the European initiative *Ocean Governance: Protecting and restoring marine ecosystems*, catalysts for building peace and security and fostering sustainable economies, South Asia and Atlantic Ocean basin. Launching of a resilience programme with RAMP AO (West African MPAs Network). The 8th General Assembly of RAMP AO acknowledged the launching of a regional MPAs resilience programme. The 40 members started implementing R-SAT and will continue in 2021 with the perspective of identifying common strengths and weaknesses, exchange experiences and develop a regional project for coastal resilience strengthening. Identification of best aquaculture practices in a perspective of coastal resilience. A review of bad and good practices linked to aquaculture projects was realised in 2021. Preparation of a practical guide on NbS to manage coastal risks. A guide has been prepared on natural infrastructures and NbS as tools to managed coastal risks, which will be published in 2021 by RAMP AO (Western Africa). Contribution to the preparation of a MOOC on MPAs for IUCN PAPACO. Several sequences of the MOOC have been developed by members of the Coastal Specialist Group to be launched in 2021.

The [Deep Sea Mining and Ecosystem Management SG](#) has been providing extensive input and feedback on the draft regulations for exploitation of mineral resources of the International Seabed Authority (ISA). An important component of the draft regulations is the development of associated standards and guidelines which were necessary at various stages in the finalisation of the Regulations. The SG has also been active in the Regional Environmental Management Plan process for the eastern Pacific (Clarion-Clipperton Zone) as well as in workshops starting to analyse data and draft REMPs for potential mining regions in the North Atlantic and Northwest Pacific Oceans. Among the published contributions from this TG: [Strategic Environmental Goals and Objectives: Setting the basis for environmental regulation of deep seabed mining](#); several chapters of the [2nd World Ocean Assessment II](#) that relate to – or are at risk from – potential seabed mining; contributions to a report, policy brief and scientific paper by the [Deep Ocean Stewardship Initiative](#) (DOSI).

The [Deserts and Oasis SG](#) has been dedicated its work to the Sustainable Oasis Initiative in partnership with several institutions. It developed a way to evaluate the impact of climate change on the whole oasis ecosystem: *Biodiversity, water resources and agro-pastoralism in the Oasis*. A workshop helped to document the hard job of women done in oases to make life easier for the family under desert conditions. During the 2020s, in addition to scientific events organised by research institutions in North Africa for the development of the production of date palm and other crops such as aromatic and medicinal plants that represent activities to enhance these ecosystems, a greater mobilisation of the Oasis society towards the cause of the oasis and desert ecosystems was active. The most significant activities for the benefit of the oasis and desert ecosystems were: Responsible Tourism Development Initiatives in Oasis and Desert Ecosystems: The International Solidarity Tourism Forum was organised in Morocco (Ourzazate) in February 2020, for the development of oasis ecosystems and towards respect for this particular ecosystem under the sign of climate resiliency and solidarity tourism. The Chair of the Oasis and Desert Ecosystems Specialist Group of the IUCN CEM participated in the Forum, emphasising the preservation of biodiversity and natural resources as a guarantor of economic and ecological sustainability for the benefit of oases. Inscription of date palm as human immaterial heritage: Next to the Gafsa (Tunisia), Gardaia (Algeria) and Atlas Mountains (Morocco) oases listed as World Agricultural Heritage Ingenious Systems (GIAHS/SIPAM) since 2011, the Siwa Oasis (Egypt) was listed GIAHS in 2016, in 2020, UNESCO registered the date palm as immaterial heritage. This recognition represents an

important addition to the oasis ecosystems and can contribute to the enhancement and preservation of knowledge, customs and traditions related to date palm trees such as the irrigation methods and the enhancement of palm by-products. Bridging boundaries: how can regional collaboration convert the date palm industry into a successful model of the bio-circular economy? This report, produced by the Khalifa Award, commemorates the UN Decade on Ecosystem Restoration (2021–2030) and is a call to action for governing bodies and industry leaders. The EOD group's President wrote a chapter on oasis biodiversity and its importance for maintaining ecosystems. The link of the report is: <https://bridgingboundaries.world/>.

The [Drylands SG \(DSG\)](#) engaged in the UNCCD debate on Land Degradation Neutrality and produced papers such as [“Land in balance: The scientific conceptual framework for Land Degradation Neutrality”](#) and [“Implementing Land Degradation Neutrality: from policy challenges to policy opportunities for national sustainable development”](#), both in *Environmental Science & Policy* (v79 and v100 respectively). In coordination with the Global Drylands Initiative (GDI-IUCN) the DSG wrote the [Technical Brief on Soil Organic Carbon and Soil Biodiversity](#). DSG organised together with ROWA and GDI, the [“Sustainable Management of Rangeland Ecosystems, Biodiversity, Carbon storage and Rangeland Livelihoods”](#) workshop (Amman, 2018) which gathered government, international aid and NGOs around creating policy dynamics to invest in the West Asia Rangelands; and highlight progress made in Sustainable Management of Rangeland Ecosystems. The Group also contributed to the IUCN Global Dryland-FAO Project on ‘Participatory Assessment of land degradation and sustainable land management in grasslands and pastoral systems.’

The [Forest Ecosystem SG](#), established in 2017, organised with the CEM South Asia region, the workshop [Role of forest ecosystems in meeting SDGs in South Asia](#) together with NABARD, India and Goa State Biodiversity Board (Goa, 2019). The FE SG participated with the talk on *“Forest sector mitigation: Its synergy with adaptation & drought proofing”* (UNCCD COP 14, New Delhi, 2019) and with the *“Role of forests in achieving SDGs”* at Asia Pacific Forestry Week (Songdo, South Korea). The Group organised one day Consultative Workshop on ‘Role of forest ecosystems in meeting SDGs in South Asia’. The workshop proceedings have been published and widely disseminated. The Group initiated a partnership among international research institutions (CIFOR – ICRAF), Indian Government (Goa Biodiversity Board), national research institutions (NEERI), universities (BITS Pilani) and developed a project proposal on: locally customised forest landscape restoration for multiple ecosystem services. The group leadership has reviewed and contributed to policy work and case study documentation in national and sub-national level such as, oil palm scenarios in Indonesia, economic and environmental benefits of plantation development in Lao and Vietnam, assisted Goa government (India) to prepare their State Action Plan on Climate Change. Key publications by the Forest Ecosystem members: *Ecosystem services under future oil palm expansion scenarios in West Kalimantan, Indonesia* (<https://www.cifor.org/library/7386/>); *Ecosystem Services from Forest Management Units in Eastern and Central Bhutan* (<https://www.cifor.org/library/7327/>); *Effects of land use and land cover change on ecosystem services in the Koshi River Basin, Eastern Nepal* (<https://www.cifor.org/library/7372/>); *China and India lead in greening of the world through land-use management* (<https://www.nature.com/articles/s41893-019-0220-7>).

The [Holarctic Steppes \(HS SG\)](#) also contributed to the priority area of ecosystem risk assessment. During this session, the HS SG prepared lists of steppe protected areas in four countries; highlighted rare steppe ecosystems discussing their relevance and the possibilities to include in terms of in the RLE; and worked with members of the SUME TG on a system for conserving Eurasian steppes while monitoring wild population of flagship species – saiga antelope, raptor birds, cranes, wild horses as well as rare vegetation. The HS SG also prepared the [Eurasian Kurgan Database](#) and extensive work is being done with local people

and communities in several countries. They also participated in the International Joint Project “[Innovations for Sustainable Use of Agricultural Resources and Climate-adaption in the Arid Steppes of Kazakhstan and Southwestern Siberia \(ReKKS\)](#)” and presented the [project at the COP 23](#) (World Climate Conference, Bonn, 2017). Several SG members prepared the International Conference “Biological diversity of Asian steppes” (Kazakhstan, 2017). The [Virtual Encyclopedia of the World's Steppes \(China\)](#) was compiled (2020), cooperatively worked with Prof. FYH Li from Inner Mongolia University, and the link is listed on the website [CEM specialist groups of holarctic-steppes](#). It summarises general information of Chinese grasslands (largely steppes, but also alpine pastures on Qinghai-Tibetan-Plateau), including classification, geology, climate, vegetation, fauna, ecosystem service, threat and conservation conditions and the important researches and research stations. The Eurasian Kurgan Database, an open access collection of kurgan locations and characteristics in Eurasia was continuously updated. Validation of more than 2000 records was finalised. Cooperation with researchers were established in order to include data from new regions, such as Romania, Bulgaria and Ukraine. A paper on the updates and achievements of the database was published (Deák et al., 2020). The research group of Balázs Deák and Orsolya Valkó took part in the practical restoration of steppe vegetation in Hungarian kurgans (see more information here: <https://deakvalko.blogspot.com/2020/10/kurgan-restoration-pilot-project-in.html>).

The [Mountains Ecosystem SG \(MESG\)](#) contributed to the work on ecosystem governance working on the publication: *Critical Approaches to Gender in Mountain Ecosystems*, which compiled case-studies on initiatives that pushed beyond existing topics of “gender inclusivity” and “gender sensitivity” to reinvigorate the analytical category of “gender” outside its static and universalistic understandings in favour of those that capture its fluid, contextual, and relational nature, addressing issues of power in ecosystem management. The MESG also worked on the edited volume of *Local and Indigenous Knowledge and Conservation Practices in Mountain Ecosystems* that aims to capture conservation interventions in mountain ecosystems that purposefully utilise, leverage, and gain from local and indigenous knowledge and conservation practices. The volume engages and elaborates on existing disagreements between conservation as a narrowly constructed scientific domain versus a shared social contract and set of socio-political practices. It expands available evidence base of successful practices that truly hold local and indigenous communities as partners and bearers of valuable knowledge.

The [Peatland Ecosystems SG](#) was managed by the IUCN UK office which was established as a formal partner of the [Global Peatlands Initiative \(GPI\)](#) in 2017. It worked on knowledge exchange and information sharing and on monitoring progress of the [IUCN Resolution 43-Securing a Future for Global Peatlands](#). It also participated in the 3rd Meeting of the Partners of the Global Peatlands Initiative: Valuing Congo Basin Peatlands for the Planet and People (Congo, 2018), and presented on the strategic approach to peatland conservation and restoration to the International Peatland Society (Rotterdam, 2018); attended an international knowledge exchange event to discuss peatland restoration, carbon markets and the Peatland Code as part of the EU [LIFE](#) exchange programme (Finland, 2018). The programme delivered the annual conference 2020 with a specific session on ‘Peatlands – a Global Future’ which shared examples of international peatland action in the UN Decade of Restoration. The [two global sessions were recorded and are available to view on their website](#). They continue to develop the [Peatlands Project Map, hosted on their programme website](#). The Map is an online tool that showcases peatland projects, be they restoration, research, sustainable management, community engagement or communications. Although there is a focus on UK case studies, showing the extent of the work delivered by the peatland community, global examples are also being added to help facilitate knowledge sharing across the world.

The [Urban Ecosystems SG](#) worked closely with the Beijing Municipal Bureau of Ecology and Environment and the Shenzhen Municipal Bureau of Ecology and Environment to promote the adoption of, and provide guidance for, ecosystem approaches and Nature-based Solutions to address ecological and environmental issues. It also worked with the IUCN Urban Alliances to develop an Urban Nature Index and promote its use in cities, especially Chinese cities.

The [Wetlands SG](#) focused on the production of the compendium of case studies *Wetlands at Risk* which will be launched in 2021. They also participated in the IUCN One Programme Strategy for Freshwater Biodiversity Conservation workshop (2017).

TASK FORCES (TF):

The [Ecosystem-based Aquaculture Task Force](#) (EbA TF) worked on the [AquaCoCo project](#) (Aquaculture, Coastal Communities and Conservation), which is embedded into the implementation of the Aichi Targets and the Sustainable Development Goals (SDGs). The main pilot case is seaweed farming in Zanzibar. A publication about *Exploring the potential for marine aquaculture to be a Nature-based Solution*; EbA TF also participated in meetings with partners: Committee on Aquaculture of the General Fisheries Commission for the Mediterranean and IUCN French Committee. In 2020, the [case study about Zanzibar](#) has been published. Three more case studies have been conducted: Shrimp and milkfish culture in Derawan, Indonesia; Giant Clam culture in Reao, Polynesia; and Seabass culture in Monastir, Tunisia. The reports are planned to be released during the first semester of 2021. Several other case-studies are under development in Madagascar, France, Portugal, Canary Islands, Madeira, Timor Leste, Chile and Scotland, aiming at the world-wide catalogue of case studies. The conclusions of the case studies will be the basis for elaborating recommendations on sustainable aquaculture. In parallel, the drafting of the report on aquaculture and Nature-based Solutions is advancing and will also be published in 2021. AquaCoCo achievements will be presented at the IUCN Congress in September 2021. Beside AquaCoCo, E-bAG is advising the European aquaculture through its participation in the European Aquaculture Technology and Innovation Platform (EATIP), the Federation of European Aquaculture Producers (FEAP) and the European Aquaculture Society (EAS). E-bAG is also influencing to the aquaculture policy at the Mediterranean level by participating to the General Fisheries Commission for the Mediterranean (GFCM). Finally, E-bAG is participating to the international dialogues for the definition of sustainable aquaculture standards with organisations such as the Aquaculture Stewardship Council (ASC).

The [Fisheries Expert Group Task Force](#) (FEG) has been key player in CEM's participation in marine governance issues. Coordinated by the [European Bureau for Conservation and Development](#) (EBCD) they bridge conversations about conservation and fisheries management through academic and technical document production and high-level conversations in decision-taking and policy making spaces. Some of their main achievements and products include: The FEG/CBD/FAO Expert Meeting on the Aichi Biodiversity Target 6: *Improving Progress Reporting and Facilitating Implementation* (Rome, 2016); two FAO Technical Papers on Rebuilding Marine Capture Fisheries (a global review and case studies) illustrating successes, failures and factors of performance. The results were communicated in different side events organised in COFI and during the UN Oceans Conference on SDG 14 (2017); a special theme session published on *Balanced harvest and the Ecosystem Approach to Fisheries* (ICES Journal of Marine Science, 2016) where a primer on the subject was published under FEG's direction on *Balanced harvest: concept, policies, evidence, and management implications* (Reviews in Fish Biology and Fisheries, 2019); a FAO Technical Paper was produced for FAO on *Marine protected areas: Interactions with fishery livelihoods and food security* illustrating both potentials, successes, problems and solutions for future progress. FEG contributed actively with two CBD expert workshops on other effective area-based conservation measures (OECMs) (Montreal, 2018), and prepared the background

paper on OECMs in fisheries, explaining the role of and effectiveness of ABMTs and OECMs in fishery management and conservation. The outcomes of this meeting contributed enormously to the following SBSTTA meeting and CBD COP on this subject, helping shape the final Decision (N° 14/8). The Expert Meeting on OECMs in the Marine Capture Fishery Sector, jointly organised by FEG, CBD and FAO, and held in Rome, 2019. The Group developed a short policy brief on *Marine capture fisheries and the post-2020 Global Framework on Biodiversity Conservation: a background brief* that was presented at the CBD Thematic Consultation on Marine and Coastal Biodiversity for the Post-2020 Global Biodiversity (2019). It also organised side events on mainstreaming in fisheries during CBD COP (2016) as well as during the UN Oceans Conference on SDG 14 (2017), showing progress in the last three decades through widespread implementation of the precautionary and ecosystem approaches and improvement of effective working relationships between e.g. FAO, CBD, IUCN and CITES since UNCED. A paper was produced in collaboration with FAO in the *Marine Policy* journal on “Mainstreaming biodiversity in fisheries” (2018). In 2020, the European Commission has launched a year-long process to review its approach on International Ocean Governance (IOG). FEG experts participated throughout the consultation, including in the first and second International Ocean Governance Forum as well as in fisheries-specific consultations and ad-hoc webinars. The FEG Chair was invited to participate in the development of another thrust to develop a [practical guidance for the UN Global Compact. Sustainable Ocean Principles: Fisheries](#). FEG (through its Chair) has been involved in the preparation by WWF of a documentation supporting the development of MPAs in the Mediterranean. The Chair commented on the original modelling paper “Support to develop a series of scenarios for the Mediterranean under the 30NetMPA target”.

[Systemic Pesticides \(TF SP\)](#) continued its work with the updates of the [World Integrated Assessment \(WIA, 2015\)](#) with: [“An update of the Worldwide Integrated Assessment \(WIA\) on systemic insecticides. Part 3: alternatives to systemic insecticides”](#) in the *Environmental Science and Pollution Research Journal*, and the Regulatory Considerations and Conclusions chapters for the WIA update. TF SP produced very important scientific papers such as the book [Bees, an intimate history with humanity](#); and the scientific papers: [Worldwide decline of the entomofauna: A review of its drivers](#); [LC-ESI/MS/MS analysis of neonicotinoids in urine of very low birth weight infants at birth](#); [A survey and risk assessment of neonicotinoids in water, soil and sediments of Belize](#).

6. Structure/Governance:

CEM structure includes: a steering committee (SC) composed by the Chair, the Deputy Chair and five vice-chairs (Africa, Asia, Europe, Oceania, Latin America, North America) where the deputy chair also served as vice-chair for Asia. Each SC member is focal point for their region/continent and for some technical groups depending on expertise. The Chair has a personal advisor and an assistant for managerial support. The SC meets twice a year aiming to organise one meeting per region/continent during the intersession. During this intersessional period the following SC meetings and associated events were developed:

[White Oak, Florida, USA \(January 2017\)](#): This was a strategic planning meeting. The meeting initiated the following guiding technical documents: CEM Mandate 2017–2020; role of the five Priority Topical Areas in focusing CEM contributions to the Union’s work plan; Strategic Planning: Vision, Priorities and Intersessional Work Plan; CEM Development.

[Cartagena-Colombia \(August 2017\)](#): The event included a joint session with the SSC SC, with 2 sub-plenaries: 1) Red listing of ecosystems and threatened species, led by the CEM RLE TG leader. 2) Ecosystems, species and nature-based solutions led by the NbS Group Director. A field trip to “El Palomar” a regional PA of the endangered tropical dry forest was hosted by

Ecosistemas Secos Foundation and Instituto Alexander von Humboldt, and included participation of regional environmental authorities.

Pokhara-Nepal (March 2018): The meeting was supported in its preparation by the IUCN Nepal office and a CEM Nepal focal point was appointed and participated in the meeting. A field trip to Phewa Watershed was done to observe sample EbA and EPIC sites and visit to the Panchase Protected Forest organised by the IUCN Nepal office.

Amman-Jordan (September 2018): The SC meeting was followed by a high-level workshop on consolidating the potential for sustainable range management in West Asia, organised by the CEM Specialist Group leader on Drylands and the Programme Manager for Drylands, Livelihoods and Gender – IUCN ROWA. The “Sustainable Management of Rangeland Ecosystems, Biodiversity, Carbon storage and Rangeland Livelihoods” workshop gathered government, international aid and NGOs around creating policy dynamics to invest in the West Asia Rangelands; and celebrating progress made in Sustainable Management of Rangeland Ecosystems. The event was followed by a field visit to Hima site in Bani Hashem where local communities have a drylands management system. The SC and workshop coincided with the 70 years anniversary celebration of IUCN.

Maputo-Mozambique (March 2019): The SC was followed by a workshop on Coastal Resilience organised by the CEM leaders of the Coastal ecosystems SG with the support of the IUCN Mozambique office. The workshop participants included environmental national authorities (Ministries of Sea, Inland Waters and Fishers, and Land, Environment and Rural Development), universities and NGOs. The themes focused on coastal systems and climate change, challenges and opportunities with the use of CEM tools and concepts such as RLE NbS, and ecosystem resilience. The event was followed by a field visit to observe coastal resilience issues in the peri-urban area of Maputo.

Jurmala-Latvia (September 2019): The SC meeting took advantage of the Europarc Conference to participate in it seeking to promote regional participation for Western and Eastern Europe as well as presenting the CEM work and knowledge products with an Europarc side-event named: *Ecosystem based Approaches in a changing world: Contributions from the IUCN Commission on Ecosystem Management. Connecting the dots: a large-scale landscape integrated ecosystem approach to achieve conservation and social goals.*

The SC meeting programmed at IUCN HQ, Gland, Switzerland (March 2020) to coordinate with Secretariat and the NbS programme had to be cancelled due to the Covid-19 crisis and was modified into a virtual meeting where the contribution of CEM to the next steps for the NbS process were discussed, as well as the support for the continuation of the Global Ecosystem Typology process. The SC also assessed the performance of the technical groups and outlined recommendations for the next session.

SC meeting (March 2021): It was a virtual CEM dedicated to discuss the basis for the CEM 2021–2024 programme, based on the adopted IUCN Programme, the adopted mandate and approved motions in 2020 and 2021.

The communication strategies of the Commission with its members and external audiences included: 1) Promoting the use of the IUCN Portal as the main communication channel among members in their groups and regions; 2) [four annual newsletters](#) informing the main activities and achievements of the past three months and promoting publications and events from CEM members; 3) four annual Letters from the Chair with the main activities developed in her leading task; 4) social media accounts in [Twitter](#), [Facebook](#) and [YouTube](#) both for members and for external audiences.

The [Young Professional Network](#) (YPN) have very active communications, with a [newsletter](#), more than [60 blog entries](#), [social media pages](#), and endorsement of members for events in Peru and India. YPN had important regional support in Central America, Mexico and the Caribbean, where one of the main goals of the Regional Chair was to support their membership and initiatives. The events to enhance their participation include the workshop *The new leadership: weaving networks among young leaders for our heritage* (CAPLAC 2019) and UNFCCC COP25. The regional YP also have their own communication tools on [Facebook](#) and [Twitter](#) where the profiles of six professionals who are members of the YPN were published aiming to position young people in the region and attract new members to the Commission. They also hosted a [Q&A webinar in Spanish](#) on “All you want to know about the relation between bats and COVID-19”.

CEM Regions and Groups also have their own newsletters and social media communication tools. Some of the most active include: [Agroecosystems](#), [Forest Ecosystems](#), Invasive Species, [South Asia](#), [South America](#), [Central America](#)-Mexico and the Caribbean.

7. Finances

CEM has estimated an annual contribution of volunteer work from its members in the order of USD 7,100,000. Active leaders and co-leaders of technical groups: their estimate in-kind quadrennium contributions at approximately USD 100,000. In-kind contributions have multiplying effects when considering how partnerships (such as the agreement with SER) add to the planning and execution of activities. Under the RLE agreement in-kind contributions include USD 140,000.