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Conservation news

UK's first Hope Spot declared

The UK's first Hope Spot was declared around the Argyll Coast and Islands on World Ocean's Day, 8 June 2019 (Mission Blue, 2019, <http://www.mission-blue.org/2019/06/first-ever-hope-spot-in-mainland-united-kingdom-declared-along-scotlands-argyll-coast-and-islands>). This announcement, by Mission Blue, the international non-profit established by Sylvia Earle, celebrates the beauty, history and vibrant biodiversity of this part of Scotland's west coast, and recognizes the actions of local communities to protect it.

The Hope Spot covers c. 791 km² comprising an intricate coastline of sea lochs, peninsulas, deep water sounds (with depths up to 200 m), narrows and islands, encompassing or contiguous to 12 existing Marine Protected Areas and Special Areas for Conservation. The variation in geomorphology along this coast supports a wide range of species, from coastal specialists such as northern feather stars *Leptometra celtica* to deep water species such as the Critically Endangered flapper skate *Dipturus batis* (Neat et al., 2015, *Aquatic Conservation*, 25, 6–20). The area is renowned for supporting six species of cetaceans, including Risso's dolphins and humpback whales. As one of the few remaining strongholds for the flapper skate in the UK, concerns have been raised about potential damage to skate and other vulnerable marine species by commercial fishing boats, which damage the seabed in this area, particularly when dredging for scallops.

Four community groups (the Community Association of Lochs and Sounds, Craignish Restoration of Marine and Coastal Habitats, Friends of the Sound of Jura and Save Seil Sound) have come together under the umbrella of the Coastal Communities Network (Coastal Communities Network, Scotland, 2019, <http://www.communitiesforseas.scot>) to highlight the need to protect the valuable and threatened waters of the Argyll Coast and Islands Hope Spot. These community groups aim to use this Hope Spot designation to demonstrate the vital connection between coastal communities and their local waters. Along with significant biodiversity, these waters also contain a number of sites of cultural importance, including shipwrecks spanning 400 years from the Spanish Armada to World War II.

The communities are calling for effective management for existing marine protected areas within the Hope Spot, and new protection for other areas where flapper skate and other sensitive and conservation priority species occur. They also aim to ensure the surrounding communities can fully appreciate the significant natural and cultural heritage values of these waters, and can realize opportunities for economic enhancement associated with these under-recognized assets.

The Argyll Coast and Islands Hope Spot provides an opportunity to bring together local sea users to discuss issues

affecting the marine wildlife and habitats of this area, and to engage the Scottish government on local priorities with regard to relevant policy and management decisions. Plans are underway to extend community-led surveys to better understand the biodiversity of these seas and provide a baseline for long-term monitoring.

Local community groups hope that the Hope Spot designation will provide opportunities to realize wider economic benefits whilst ensuring better management of these waters, and they will work across sectors to promote low impact, sustainable fisheries, and to promote high value income opportunities associated with ecotourism. They are already promoting widespread awareness of, and engagement with, the Hope Spot. Ultimately, their aim is for the Argyll Coast and Islands Hope Spot to restore the full value of these seas for both biodiversity and local people.

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Endangered crowned solitary eagle in the threatened Amazonian savannah

The crowned solitary eagle *Buteogallus coronatus* is one of the largest and most severely threatened eagles of the Neotropics, categorized as Endangered on the IUCN Red List because of its small and fragmented population (total number of reproductive individuals < 1000), significant range contraction and continuing decline (Canal et al, 2017, *Conservation Genetics*, 18, 235–240). The main threats to the species include habitat loss, human persecution and electrocution by power lines. Like other large eagles, the species has a naturally low population density, late sexual maturity and low productivity, characteristics that when combined with human-induced threats can drive species to extinction. The crowned solitary eagle inhabits open dry forest and savannahs across central Brazil, eastern Bolivia, Paraguay and northern Argentinian Patagonia (Bird Life International, 2016, <http://www.datazone.birdlife.org>).

Savannah enclaves on the periphery of the Amazon forest comprise heterogeneous mosaics of open areas and forests with a diverse community of both savannah and forest adapted species. These enclaves are coveted by large-scale agriculture, particularly in the southern Brazilian Amazon,

which has the highest deforestation rates in the country. During February 2017–February 2019 we conducted extensive surveys in this region, including in Campos Amazônicos National Park, which was created in 2006 to protect the largest Amazonian savannah enclave (434,200 ha) in the southern Brazilian Amazon. Within this enclave, during the dry season, we recorded a single adult crowned solitary eagle at 61.818°W 8.478°S, at least 600 km outside the known species range. The record reported here is the most northerly known record of the species. Although unexpected because of the distance from documented populations, the area has large tracts of natural open habitats similar to those used by the crowned solitary eagle elsewhere.

Even though eagles have high dispersal capabilities, the great distance from other known populations suggests that this record is not a dispersing individual. However, further studies are needed to examine whether there is a resident population within this savannah enclave. As documented for species elsewhere (Hody & Kays, 2018, *ZooKeys*, 759, 81–97), it is possible that the crowned solitary eagle is expanding its distribution northward, following substantial landscape transformation in this region from Amazonian forest to open areas for extensive cattle ranching. A number of recent records from extensive cattle-ranching areas (Bird Life International, 2016) suggests that the species is capable of tolerating disturbances associated with this anthropogenic habitat, although the species is persecuted by ranchers (Barbar et al., 2016, *Journal of Raptor Research*, 50, 115–121).

The existence of a resident population or pioneer colonists of the crowned solitary eagle would be good news both for the species and for Campos Amazônicos National Park, which faces severe challenges to the maintenance of its integrity, with various infrastructure projects planned or ongoing nearby, including roads, hydroelectric dams and mining. The presence of the crowned solitary eagle emphasizes the biodiversity value of this poorly studied region.

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The ecosystems of large unregulated rivers of Central Europe are under pressure

A social campaign has been organized in Poland against the international inland waterway E-40 (Ogólnopolskie

Towarzystwo Ochrony Ptaków, 2019, <https://otop.org.pl/naszeprojekty/pilnujemy/stop-dla-drogi-wodnej-e40>), which will be constructed through Poland, Belarus and Ukraine, stimulated by a December 2018 report (Grygoruk et al., 2018, http://www.ratujmyrzeki.pl/dokumenty/E40_raport_2019.pdf). The construction of the waterway would connect the ports of Gdansk on the Baltic Sea in Poland and Kherson on the Black Sea in Ukraine, and would include parts of the Vistula, Bug, Pina, Prypec and Dnieper rivers. The plan for the E-40 waterway is a threat to the ecosystems of some of the largest and unregulated rivers of Poland and wider Europe. A development strategy for inland waterways was introduced in 2016 to adapt Poland's rivers to the criteria of international standards for inland waterways (Świerczewska-Pietras, 2018, *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 32, 38–53.). In addition, the act relating to Poland's ratification of the European Agreement on Main Inland Waterways of International Importance came into force in February 2017 (Lawicki et al., 2017, *Oryx*, 51, 397–397).

The construction of this Baltic–Black Sea waterway would affect many European rivers, especially in Poland, with the strongest impact on the Bug and Vistula. The plans include the construction of an artificial channel to connect the Bug and Vistula Rivers, which would be the main source of water for this channel. The construction of the channel would have an impact on important river valleys, including Tysmienica and Wilga, and the main impact would be the water required for the operating of the channel. This would particularly affect the Bug, which is unregulated along its whole length. The duration of river floods would be reduced by c. 20% and the frequency of severe droughts in the nearby area would increase (Grygoruk et al., 2018, op. cit.). The exploitation of the channel, and particularly the operation of its floodgates, would significantly reduce the levels of groundwater in most adjacent areas (Grygoruk et al., 2018, op. cit.). The fall in the water level of the Bug would diminish its ability to self-purify industrial and municipal sewage that comes from Ukraine (Starodubet al., 2018, *Remote Sensing for Agriculture, Ecosystems, and Hydrology XX*, <https://doi.org/10.1117/12.2501928>).

Almost all of the planned length of the E-40 in Poland passes through protected areas and it is estimated that the inland waterway would have an impact on 1,064 km² of these areas, including 12 Natura 2000 areas, one national park, four landscape parks and 23 nature reserves. Important animal species are also threatened: Eurasian oystercatcher *Haematopus ostralegus* (IUCN, NT), black-tailed godwit *Limosa limosa* (IUCN, NT), Eurasian otter *Lutra lutra* (IUCN, NT), common ringed plover *Charadrius hiaticula* (IUCN, LC), Mediterranean gull *Larus melanocephalus* (IUCN, LC), and aquatic warbler *Acrocephalus paludicola* (IUCN, VU). The construction of the planned inland

waterway could also result in a reduction of tourism and a consequent loss of income for local people.

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Conserving African biosphere reserves: a workshop on the valuation of ecosystem services in Man and the Biosphere Reserves

In Bahir Dar, Ethiopia, on the shores Lake Tana, a workshop for the valuation of ecosystem services in Man and the Biosphere reserves was held on 13–17 May 2019. ‘Evamab’ is a 3-year research project funded by the Belgian Science Policy under an agreement with UNESCO’s Man and the Biosphere programme, carried out by a consortium of Belgian and African research institutes and universities. The project aims to understand, apply and improve approaches for ecosystem services assessment in African Man and the Biosphere Reserves. It focuses on four Reserves, in Benin (Pendjari), Ethiopia (Lake Tana), Tanzania (Lake Manyara) and Uganda (Mount Elgon), reflecting a range of socio-ecological and biogeographical conditions, including savannah, Afro-montane and lacustrine systems, all of which are undergoing rapid anthropogenic changes.

Managing Biosphere Reserves requires socially and scientifically pertinent and robust approaches, especially in weak institutional contexts. The ecosystem services concept connects the programme’s goals, activities and the associated stakeholders at local and global levels. Existing ecosystem services assessment tools have been categorized based on user-generated criteria collected through an iterative Delphi survey at the 2017 African Man and the Biosphere Reserves Network Meeting in Nigeria. A selection of tools for rapid assessment of ecosystem services has been tested and customized in the field. The interdisciplinary and cross-cultural approach to using and evaluating assessment tools allowed us to learn about the opportunities and pitfalls associated with the valuation of ecosystem services and informed the preparation of decision-support tools for a range of stakeholders in research, policy and practice.

During the workshop, c. 40 participants (Biosphere Reserve managers, scientists and policy makers) contributed to the design and contents of a UNESCO *Manual for Management Based on Ecosystem Services in African Man and Biosphere Reserves*. A participatory approach combining World Café (i.e. rotating tables) workshops, consensus building discussions and the sharing of field-based experiences in the four case studies and beyond was conducive to collecting

expert input. The final version of the manual is due in January 2020, and a first draft is scheduled to be presented at the 2019 African Man and the Biosphere Reserves Meeting in Yamoussoukro, Côte d’Ivoire, the 2019 Ecosystem Services Partnership World Conference in Hannover, Germany, and the 2020 IUCN Congress in Marseille, France. The participants agreed on a co-stewardship and research-based approach in the management of Biosphere Reserves, and the manual and derived products should appeal to both managers and decision makers. In the workshop, the opportunities of using ecosystem services as a tool were illustrated by payment for ecosystem services-initiatives in Uganda, community-based workshops held in Benin, Uganda and Tanzania, and willingness-to-pay studies conducted among communities surrounding Lake Tana and Pendjari Biosphere Reserves.

The valuation of ecosystem services in Man and the Biosphere Reserves ‘Evamab’ project aims to connect local managers and communities—who are the ultimate stewards of their social-ecological systems—and global beneficiaries of large-scale ecosystem services, such as carbon storage and climate stability, to the realities of the day-to-day management of African Biosphere Reserves. During a field trip on Lake Tana, participants experienced first-hand the challenge of the rapid extension of the invasive, non-native water hyacinth *Eichhornia crassipes*, which locally hampers fisheries and livelihoods. A visit to a local Christian Orthodox monastery illustrated the importance of ancestral culture as a local ecosystem service (tourism revenues and conservation of sacred groves). Project updates are posted on the project website ([Http://www.biodiv.be/evamab](http://www.biodiv.be/evamab)) on a regular basis.

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Accelerating threats to Cambodia's wildlife

South-east Asia is at the epicentre of the Anthropocene extinction crisis (Duckworth et al., 2012, *S.A.P.I.E.N.S.*, 5.2), and threats to the unique wildlife of the region are increasing (Hughes, 2017, *Ecosphere*, 8, e01624). The Wildlife Alliance has been implementing law enforcement and protected area management across > 5,000 km² of Southern Cardamom National Park and Tatai Wildlife Sanctuary in the Cardamom Rainforest Landscape, south-west Cambodia, a globally significant landscape for conservation, since 2002 (Gray et al., 2016, *Gajah*, 45, 35–38). Since 2015 we have observed a significant increase in forest and wildlife crime in the landscape's protected areas. The number of illegal chainsaws confiscated by our rangers annually has increased by 650%, and the number of hunting snares removed and destroyed annually has increased by 300%, totalling 19,986 in 2018. Illegal land encroachment into the protected areas has increased by 750%, from 24 ha annually during 2008–2010, to 180 ha in 2018. These trends are unlikely to be restricted to a single protected area and we believe they are driven by the recent Chinese investment in South-east Asia, part of China's national Belt and Road Initiative. An estimated USD 8 trillion worth of investment is planned across c. 120 countries (Huang et al., 2016, *Chinese Economic Review*, 40, 314–321). The Belt and Road Initiative has significant potential to impact biodiversity (Laurance et al., 2017, *Science*, 358(6362), 442–444).

Cambodia, a country in which China is the largest investor and to which it is increasingly politically aligned, is becoming a hub for capital investment and tourism from mainland China. This investment has been associated with land-grabbing and speculation, currently the most significant drivers of deforestation in Cambodia, as well as increased demand for illegal wildlife products. The newly developed coastal Sihanoukville Special Economic Zone, c. 70 km from the Tatai Wildlife Sanctuary, has > 100 Chinese enterprises and companies, with a total investment of > USD 3 billion (Vannarith, 2017, *Khmer Times*, 15 June 2017). This investment both increases the value of land, thus promoting land speculation and illegal deforestation, and stimulates demand for illegal wildlife and timber products. Responding to these accelerating threats is stretching law enforcement capacity and resources of both government and civil society. Without significant increases in funding for effective protected area management and law enforcement, significant future extirpations and extinctions will occur throughout South-east Asia.

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