Agriculture in this region of rolling hills, oak–hornbeam forest, grassland and arable land relies largely on non-intensive mixed farming, facilitating survival of habitats and animal and plant species that have otherwise retreated or disappeared from much of Europe (Akeroyd, 2006, *The Historic Countryside of the Saxon Villages of Southern Transylvania*, Fundația ADEPT; Akeroyd & Page, 2011, *Contribuții Botanice*, 46, 57–71). Only dairy farming is at all commercially developed. Sheep-milk cheese is mostly consumed locally; dairy companies collect cow milk for processing elsewhere. Cattle numbers have fallen as a result of low milk prices and competition from imports, replaced by large flocks of sheep that overgraze and erode pastures. Beef cattle may offer a more profitable option and a benign grazing regime.

Since March 2018 Fundația ADEPT has managed a 60-strong Aberdeen Angus beef herd in 240 ha of Angofa valley, 5 km south of the historic town of Sighișoara, to restore grassland degraded by 15 years of sheep grazing. The purchase of a farm, grant-aided by Fauna & Flora International's Halcyon Land & Sea Fund, supported by Arcadia, a fund of Lisbet Rausing and Peter Baldwin, and FFI's wider supporter network, has enabled ADEPT to establish and demonstrate conservation-friendly management on a landscape scale and to generate income. Donations from individual UK supporters funded the purchase of the beef herd.

By mid June 2018 the herd had achieved good condition. Even some animals in poor condition in early 2018 were, a few months later, more or less indistinguishable from the others. No supplementary feed was given; the cattle fattened on a diet of native grasses and wildflowers, contradicting conventional modern farming theory. In spring 2019, when they calved a second time, 56 of 60 animals gave birth successfully and the herd is now healthy and established. Fundația ADEPT estimates that agri-environment payments and beef sales will yield a profit of EUR 65,000 per year in 2019 and 2020, which will be partly reinvested in the farm, to fund new machinery and conservation activities. It is important that this farm demonstrates the economic viability of conservation-based landscape-scale grassland management. It offers a realistic model, as in many villages farmers already have common grazing and privately-owned hay meadows.

Cattle graze less closely than sheep, trample and open up coarse vegetation, and require more hay meadows for winter feed. They leave clumps of longer grasses favourable to invertebrates, whereas sheep produce a more homogeneous low sward. Cattle provide better support for family farms, and herds can be managed by associations in which members share profits. Sheep flocks are usually owned by individuals rather than by communities, and often by outsiders who retain all profits. The Aberdeen Angus breed fulfils dual roles of beef production and conservation grazing. Hardy and easy to manage and calve, the breed thrives on a herbage-only diet and tolerates temperatures from −30 °C in winter to +40 °C in summer. It has an assured value in Romania and attracts EU headage payments for selected pedigree cattle breeds.

Beef is not traditional in the Romanian diet, but rising living standards have made it a prestigious, more widely eaten food. Pasture-fed beef is rich in healthy omega-3 polyunsaturated fatty acids, and the cattle themselves provide wide environmental, social and economic benefits. Concerns about greenhouse gas emissions from beef production rarely distinguish between beef raised on permanent pasture and that relying on inputs linked to intensive arable farming, imported feed or rainforest clearance. The soil of permanent pastures, especially when extensively grazed by domestic or wild herbivores, can reduce net carbon (CO_2, CH_4) emissions by $> 90\%$ or even sequester more CO_2 than emitted.

Since 2017 removal of sheep in Angofa valley, combined with cattle grazing, has allowed restitution of pastures and other habitats. Regular mowing for winter feed should restore hay meadows that, after 2 years, already show a significant increase in floristic diversity, notably of legumes and orchids.

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Testing the IUCN Green List of Species

The IUCN Green List of Species (Akçakaya et al., 2018, *Conservation Biology*, 32, 1128–1138) is a new tool for measuring species recovery and conservation success. A stepwise process assesses a species' status across its indigenous range to produce a score (0–100%) against full recovery. This score is estimated for the past, present and future, with and without conservation, and produces four metrics: conservation legacy (impacts of past conservation efforts), conservation dependence (necessity of continued action), conservation gain (from actions in the next 10 years or three generations), and recovery potential (maximum plausible recovery in 100 years). The IUCN Species Conservation Success Task Force is testing the assessment methods before formal adoption planned for 2020.

We were interested to know how the proposed Green List of Species could be used to monitor the impacts of conservation agencies and donors. During June–August 2019 we worked with taxonomic experts to conduct preliminary assessments for 15 species that are, or will be, the focus of projects funded by the National Geographic Society. Test assessments of mammals (African manatee *Trichechus senegalensis*, northern sportive lemur *Lepilemur septentrionalis*, Sumatran rhino *Dicerorhinus sumatrensis*), birds (African penguin *Spheniscus demersus*,

Alagoas antwren *Myrmotherula snowi*, Fatu Hiva monarch *Pomarea whitneyi*), amphibians (dusky gopher frog *Lithobates sevosus*, Houston toad *Anaxyrus houstonensis*, mountain chicken *Leptodactylus fallax*), fishes (estuarine pipefish *Syngnathus watermeyeri*, largetooth sawfish *Pristis pristis*), insects (Patagonian bumblebee *Bombus dahlbomii*, Poweshiek skipperling *Oarisma poweshiek*) and dipterocarp trees (*Anisoptera reticulata*, *Vatica maritima*) provided insights into the effectiveness of the tool across taxa, regions and biomes.

Preliminary Green List of Species metrics were produced for all 15 species, even those with limited data on abundance and distribution, and assessors made recommendations to improve assessment materials. Assessors found the tool useful and felt it addresses the identified need (Mallon & Jackson, 2017, *Oryx*, 51, 605–609) to demonstrate conservation successes and incentivize donors.

The highest conservation legacy scores were for birds (African penguin, Fata Hivu monarch), for whom failure to conserve habitats would have resulted in possible extinction. Eleven species are reliant on conservation to maintain their status (conservation dependence > 0%), of which eight (African manatee, northern sportive lemur, Sumatran rhino, dusky gopher frog, Houston toad, mountain chicken, largetooth sawfish, Poweshiek skipperling) would probably become extirpated in the wild if conservation actions were halted.

Conservation gains are expected for eight species, with planned field projects likely to help produce the largest improvements in the mountain chicken and northern sportive lemur. Seven species had 0% conservation gain, suggesting their status may not improve in 10 years or three generations, even with conservation. This does not mean funding is misplaced (all seven species had a legacy or dependence score ≥ 20%, demonstrating the importance of conservation). Rather, low conservation gains reflected challenges associated with conserving species that have small populations surviving in pockets of former range (e.g. Sumatran rhino, Poweshiek skipperling), face multiple threats across wide ranges (e.g. African manatee), or reproduce slowly (trees). Finally, although it may not be observed in the short term, all 15 species have long-term recovery potential and therefore conservation could improve their status.

We conclude that the Green List of Species can be used on diverse plant and animal species, although further testing will provide greater insights into its applicability across taxa. Conservation agencies and donors such as the National Geographic Society can use the conservation dependence and conservation gain metrics to monitor the impact of certain types of projects, as long as they operate at large enough temporal and spatial scales to address key threats. Regardless of project scale, the tool could help value and incentivize conservation and could assist in developing a common vision for range-wide species recovery.

Our insights have been shared with the IUCN Species Conservation Success Task Force and will be used to enhance the Green List of Species standard and guidance materials. We are indebted to the 26 people who helped with the assessments; they will co-author scientific papers to provide further peer review of the methods. The testing process enhanced our understanding of the value and uses of the IUCN Green List of Species and will ensure the tool is adapted and improved to be relevant and applicable to as many species as possible.

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Thailand holds its first Parks Congress

In recent years Thailand has enjoyed a remarkable increase in protected area coverage. It now has 128 terrestrial National Parks, 26 Marine National Parks, 60 Wildlife Sanctuaries and 63 Non-hunting Areas. Managed by the Department of National Parks, Wildlife and Plant Conservation, these protected areas cover c. 23% of Thailand's territory. This substantial allocation of land, freshwater and sea is justified by the protected areas being managed to deliver multiple benefits to farmers, fishers, students, visitors, researchers, tourism agencies, and others.

To respond to this growing responsibility, the Department of National Parks, Wildlife and Plant Conservation organized its first Thailand Parks Congress during 15–17 September 2019. Organized by a team led by Dr. Songtam Suksawang, Director of the Department's National Parks Office, over 500 staff were joined by environmental, media and non-governmental conservation organizations to explore ways to apply modern management approaches to the protected areas. New mobile phone apps for visitors were demonstrated, along with electronic registration for popular National Parks. The National Parks are now all linked by the internet, and field staff have hand-held management systems that facilitate patrolling, reporting and resource management. Aerial drones were demonstrated that are now patrolling the large protected areas to support efforts to limit encroachment and poaching. Congress participants were introduced to a system under development