

Open Letter by the undersigned IUCN Members to the IUCN Council

AAO, AEnv, AGEREF/CL, ARCAS, BEES-ONG, BUND Naturschutz in Bayern, CEIDA, CENESTA, CRADIB-ONG, DNR, EuroNatur, Exploralis, FODER, FoN, INCA, Mweka, NACSSA, Pro Natura, REMBLAH, RSPN, SINCHI, Tour du Valat, ZoogDierVereniging

To the IUCN Council

18.10.2019

Dear Mr. Xinsheng,
Dear members of the IUCN Council,

we have taken note of the IUCN assessment report "*Genetic frontiers for conservation: an assessment of synthetic biology and biodiversity conservation*". We are of the strong view that this report should not be regarded as a sufficient basis for the development of IUCN policy recommendations, nor should it be part of an IUCN motion process on synthetic biology in nature conservation to be voted on at the upcoming IUCN World Conservation Congress in June 2020 in Marseille.

Our first concern with the report and the related policy process is that it fails to raise the fundamental question of whether the tool of genetic engineering should be used for the purpose of nature conservation at all. In our understanding of nature conservation, interventions at the level of the genome of wild species contradict the aim of nature conservation and the protection of biodiversity. We believe nature should be protected as it emerged from evolutionary processes and not be replaced by genetically engineered organisms. The incorporation of genetic engineering as a tool of nature conservation would mean a redefinition of the term nature conservation and a fundamental paradigm shift for global efforts in nature conservation.

This very basic question needs to be addressed prior to the development of policy recommendations on synthetic biology in nature conservation and the adoption of an IUCN policy on this matter. The dialogue we propose should not merely involve a task force and authors who largely earn their living through (continued) research and development of the technology in question. In our opinion, this fundamental question needs a much broader, in depth and rigorous discussion among IUCN constituencies.

Given the lack of balanced debate about this topic at the current moment among the IUCN constituencies, we urge you not to move forward as planned with drafting policy recommendations for a motion process on synthetic biology in nature conservation aimed for adoption at the World Conservation Congress in Marseille in June 2020. We urge you instead to take the necessary time for a rigorous, more balanced, informed and critical discussion of this fundamental question.

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Other reasons why we would like to ask you to reconsider whether the report constitutes a sufficient basis for a subsequent motion process as required by Resolution 6.086 are:

- The report appears to promote the introduction of genetically engineered (GE) organisms and even gene drive organisms into wild populations without considering the ramifications of such an introduction in space and time.
- Several sections of the report seem to be biased towards the interests of those who intend to apply the respective technologies; some of whom were invited to be co-authors. Consequently, sufficient weight has not been given to requirements of the precautionary principle and protection goals such as conservation of the species that occur naturally within ecosystems.
- The report, and in particular the case studies, create a misleading impression as to both the limits of knowledge and the availability of methods for control of GE organisms after they have been released into natural systems - as required by the precautionary principle.
- Without this broader perspective most of the case studies in the report give the dangerous impression that interventions through GE in highly complex ecosystems might be feasible and controllable in the very near future.

Furthermore, we would like to raise the following concerns regarding the general use of synthetic biology for nature conservation –and the use of gene drive organisms in particular – which in our opinion the report fails to address sufficiently:

- If organisms derived from synthetic biology are introduced into natural populations as implied by the report, this would entail the genetic engineering of the ‘germ line’ of biodiversity with the risk of disrupting the functioning of existing ecosystems and their future evolutionary dynamics.
- In a similar way to how diseases vectored by non-native species or human activities spread, GE organisms introduced into natural populations may severely impact animal, plant and human health and also damage biodiversity and other values, particularly biodiversity of value to Indigenous peoples and other local communities.
- The biological characteristics of the original GE organisms produced in the lab and grown under controlled conditions cannot be considered reliable for predicting potential biohazards that may emerge in future generations; and after exposure to ongoing changes in the environment.

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- The release of GE organisms such as trees, corals, amphibians, insects, rodents and other wildlife into natural populations and their ecosystems implies a new level of uncertainty, leading to potential harms that cannot be assessed beforehand with sufficient accuracy to act in a precautionary manner. Complex and heterogeneous genomes, multitudinous networks of mutual interactions, highly diverse environments and changes of environmental conditions (e.g. caused by climate change), make it impossible to foresee the actual long-term consequences in most cases.
- The precautionary principle as established by the Convention on Biological Diversity (CBD) stipulates that effective measures are taken to intervene in the interest of biodiversity if something 'goes wrong'. If no such mechanisms are available to prevent the uncontrolled spread of GE organisms after their release, the precautionary principle is completely undermined. However, this aspect is hardly mentioned in the report. To date there is no solution to the problem of retrieving the released genetically engineered organism in case something goes wrong. Effective control mechanisms (i.e. measures to control applications of GE organisms and their spread, which allow their retrieval from the environment and termination of their persistence if needed) are therefore crucial in the assessment of both potential hazards and benefits and have to be established before any decisions on the use of these organisms in the wild can be taken.

Yours sincerely



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Association "Les Amis des Oiseaux"

Association Les Amis des Oiseaux (AAO), Tunisia



Advocates for the Environment

A non-profit law firm
and advocacy organization

Advocates for the Environment (AEnv), USA

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Association intervillageoise de Gestion des Ressources Naturelles et de la Faune de la Comoé-Léraba (AGEREF/CL), Burkina Faso



Asociación Rescate y Conservación de Vida Silvestre (ARCAS), Guatemala



Benin Environment and Education Society (BEES ONG), Benin



Bund Naturschutz in Bayern, Gemany

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Centro de Extensión Universitaria e Divulgación Ambiental de Galicia (CEIDA), Spain



Centre for Sustainable Development (CENESTA), Iran



Centre de Recherches et d'Action pour le Développement des Initiatives à la Base (CRADIB-ONG), Benin



Deutscher Naturschutzring (DNR), Deutschland



Stiftung Europäisches Naturerbe – EuroNatur, Deutschland

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Exploralis, Tunisia



Forêts et Développement Rural (FODER), Cameroon



Friends of the Nation (FoN), Ghana



Institute for Nature Conservation in Albania (INCA), Albania

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College of African Wildlife Management (Mweka), Tanzania



National Association of Conservancies of South Africa (NACSSA), South Africa



Pro Natura, Switzerland



Red de Manejo de Bosque Latifoliado de Honduras (REMBLAH), Honduras

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Royal Society for Protection of Nature (RSPN), Bhutan



Instituto Sinchi, Colombia



Tour du Valat, France



Vereniging voor Zoogdierkunde en Zoogdierbescherming, The Netherlands