**133 Precautionary deferment of the release of genetically engineered wild organisms into natural ecosystems**

ACKNOWLEDGING IUCN Resolution 3.007 *A moratorium on the further release of Genetically Modified Organisms (GMOs)* (Bangkok, 2004), Resolution 5.004 *Establishment of the Ethics Mechanism* (Jeju, 2012), Resolution 7.123 *Towards development of an IUCN policy on synthetic biology in relation to nature conservation* (Marseille, 2020) and Resolution 6.086 *Development of IUCN policy on biodiversity conservation and synthetic biology* (Hawai'i, 2016) and Resolution 3.008 *Genetically Modified Organism (GMOs) and biodiversity* (Bangkok, 2004);

RECOGNISING the potential benefits of synthetic biology and genetic engineering in biodiversity conservation, public health, and climate adaptation, and the importance of balancing risks with opportunities;

NOTING that existing international instruments (such as the Cartagena Protocol on Biosafety) and guidance (such as WHO's "Guidance Framework for Testing of Genetically Modified Mosquitoes" and Cartagena Protocol's "Additional Voluntary Guidance Materials on the Risk Assessment of Living Modified Organisms containing Engineered Gene Drives") already provide a framework for assessing and managing potential risks;

FURTHER RECOGNISING that research on new methods and technologies, including synthetic biology, should continue in full compliance with robust biosafety safeguards. Provided that it does not involve the release of genetically engineering wild species or novel genetic elements into open environments until robust risk assessment frameworks are developed for this particular use.

AWARE that synthetic biology advances or develops new technologies for genetic engineering, including engineered gene drives, and which commonly gives rise to Genetically Modified Organisms (GMO), and that synthetic biology is converging with generative artificial intelligence (AI) to for example engineer microorganisms and microbiomes, viruses and genetic elements;

RECOGNISING that biodiversity conservation is intrinsically linked with other goals, including poverty eradication, food security, health and climate action, and that innovative tools may contribute to achieving these independent objectives;

FURTHER AWARE of proposals to expand genetic engineering to wild species in natural complex and interconnected ecosystems, which raises significant conceptual and value questions, as well as biosafety challenges;

CONCERNED that, by introducing changes to the genetic makeup of wild species and by altering and potentially destabilising the interactive ecosystems of which they are part of, genetic engineering of wild species in natural ecosystems might interfere with or undermine established and effective nature conservation strategies, including those that respect and facilitate co-evolutionary processes and grounded in the traditional knowledge and practices of Indigenous peoples and Local communities;

ACKNOWLEDGING disagreement about whether genetic engineering of wild species in natural ecosystems, including in protected areas, is compatible with the practices, values and principles of nature conservation and the mission and objectives established in the IUCN Statutes;

RECALLING point 3 of the fundamental principles of the IUCN Biosphere Ethics Initiative, recognising the danger in the synthetic creation of new life forms being introduced into the biosphere;

REAFFIRMING the intrinsic value of biological diversity as laid out in the Preamble of the Convention on Biological Diversity;

CONCERNED that genetic engineering of wild species in natural ecosystems is irreversible, and leads to unforeseeable impacts over space and time that could exacerbate biodiversity loss and significantly damage ecosystems, and may also lead to uncontrollable transboundary movement of GMOs; and

REAFFIRMING, therefore, the fundamental importance of applying the Precautionary Principle, as set out in the 1992 Rio Declaration on Environment and Development, regarding GMOs;

**The IUCN World Conservation Congress 2025, at its session in Abu Dhabi, United Arab Emirates:**

1. CALLS on the members to only consider the release of synthetic biology products and related technological approaches products that do not: a) involve genetically modified wild organisms capable of replication and transmission in natural ecosystems, including engineered gene drive organisms and modified microbial communities; nor b) lead to dispersal of naked or synthetically encapsulated nucleic acids into the environment for the purpose of genetic silencing; until the IUCN World Conservation Congress formally votes to decide otherwise.

2. REQUESTS that contained research on synthetic biology continues to be carried out in a transparent, equitable and openly accessible way, including research into vaccines or applications of vaccines, but excluding release of vaccines intended to be self-spreading or transmissible between hosts in natural populations.

3. CALLS ON the IUCN World Commission on Environmental Law to assess the legal, ethical and conceptual aspects of the genetic engineering of wild species in natural ecosystems, in relation to the practices, values and principles of nature conservation and the mission and objectives established in the IUCN Statutes, and to report to Council; and

4. REQUESTS the Director General to include the present Resolution and Resolution 3.007 into IUCN’s public communication materials addressing synthetic biology and genetic engineering.