

A call for increased consideration of genetic diversity in IUCN planning and actions

RECOGNISING the importance of maintaining genetic diversity – that is, variation within species – as one of the three biological diversity components, as described in the 1992 Convention on Biological Diversity (CBD), further specified in CBD Aichi Biodiversity Target 13 for 2020, and highlighted in the post-2020 global biodiversity framework;

HIGHLIGHTING in particular emphasis in Aichi Biodiversity Target 13 on conserving genetic diversity for wild and domesticated species by including those of cultural and social or economic importance;

NOTING that genetic diversity is a critical resource for nature and society, that many species have documented pharmaceutical, industrial, ecosystem-service or cultural values (e.g. more than 28,000 medicinal plant species), and that abundant scientific evidence demonstrates the significant role of genetic diversity in wild species for ecosystem resilience, species survival, and adaptation, especially under increased threats of climate change and new pests and diseases;

NOTING that measuring and monitoring genetic diversity, using genetic markers and demographic data, enables us to better evaluate species health, including effective population size, population viability, adaptive variation, and inbreeding, and that the exchange of genetic variation across different populations (gene flow) improves the management of biodiversity and natural resources;

RECOGNISING that loss of genetic variation, like loss of species, is permanent;

FURTHER RECOGNISING that genetic diversity assessment can be a useful indicator of changes in species populations, as it may display evolutionary changes at a more sensitive level than species indicators;

NOTING that scientists have assessed genetic diversity for thousands of species over four decades, that genetic diversity is eroding from habitat and population loss, direct harvest, disease and increasing extreme events, and that genetic diversity is inadequately safeguarded both *in situ* and *ex situ*; and

ACKNOWLEDGING the role of the Species Survival Commission (SSC) Conservation Genetics Specialist Group, and the SSC Conservation Planning Specialist Group, as well as other groups of experts, such as the Group on Earth Observations Biodiversity Observation Network (GEO BON) Genetic Composition Working Group, the Society for Conservation Biology Conservation Genetics Working Group, and European Cooperation in Science and Technology (COST) Action on Genetic Biodiversity Knowledge for Ecosystem Services, in providing expertise on maintaining genetic diversity and integrating genetic diversity actions into conservation planning;

The IUCN World Conservation Congress 2020, at its session in Marseille, France:

1. CALLS ON IUCN to integrate natural genetic diversity into all relevant activities beyond 2020 with explicit strategic plans, recognising genetic diversity as a crucial pillar of biodiversity, key to resilient ecosystems and society, and to preventing species extinctions, and thus contributing to maintaining all other levels of biodiversity, and underpinning the CBD and biodiversity-relevant Sustainable Development Goals (SDGs);
2. ENCOURAGES that consideration of genetic diversity should be incorporated, where possible, into protected area planning, *ex situ* conservation, species conservation, reintroduction and restoration initiatives, natural capital assessments, and biodiversity monitoring using appropriate tools, indicators and databases; and
3. URGES that fair and collaborative research and relevant genetic analysis for non-commercial biodiversity management and safeguarding should be acknowledged and facilitated across nations to ensure that critical scientific and conservation advances can be generated and shared without impediment of inappropriate application of the CBD Nagoya Protocol on Access and Benefit Sharing (2010); and
4. FURTHER URGES the prioritisation and promotion of collaborative research into the development of an index that (optimally) describes the genomic health of a population/species, and the subsequent application of this index.