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ENSURING LONG TERM SURVIVAL OF LIFE AND ECOSYSTEMS AMIDST A 6TH MASS  
SPECIES EXTINCTION ON EARTH

**Abstract**

We are in a 6th mass extinction of life on earth. In less than 40 years, we have lost over 50 percent of the earth's wild vertebrates (1) while many invertebrates, like pollinators, are threatened too (2). Best data estimate less than 0.1 percent of the total number of animal species on earth are being backed-up (3) while breeding programs include around 200 animal species of the thousands threatened (4). A new approach and set of collaborations is warranted. The organisation's objectives include cell conservation of a maximum amount of animal species. Our plans include sampling living cells of animals in places of high biodiversity (hotspots). Next to local storage in country and / or continent of origin, the development of one or many centralised protected vaults, like the plant seed vault in Spitsbergen, is essential (5). The safe vaults will be on earth but also in space and other planets. Technologies that protect the quality of living cells from radiation are needed. Making a high quality large scale exportable back -up of life on earth is key to guarantee long term survival of humanity and biodiversity. A copy of the living cells will be used to advance the field of reproductive biology and technology. It will also offer opportunities for sustainable food supply and new developments in medicine. To be able to perform this work effectively and timely, different disciplines are joining the effort: one health, reproductive biology and technology, space communities, business and the broader society. For speed, quality assurance and safety of work, different technologies used in space agencies and automation will become vital. The possibilities that the use of satellites, drones, robotics, heat and other sensing techniques offer need to be fully explored. A new operating model should be implemented worldwide in the next 5 to 6 years.

1. WWF, Living planet Index Report 2014 2. IPBES. The assessment report on pollinators, pollination and food production. 2016. Simon Potts et al. Available at: <http://www.ipbes.net/sites/default/files/downloads/pdf/spm.16.5.SvalbardGlobalSeedVault.Availableat> : <https://www.croptrust.org/our-work/svalbard-global-seed-vault/>