



Engineering Nature? Genetic Technologies in Conservation Webinar

29 April 2025

Resource List

General overview

- German Federal Agency for Nature Conservation (BfN), 'Genetic Engineering, nature conservation and biological diversity: boundaries of design', October 2022
<https://www.bfn.de/sites/default/files/2022-10/2022-genetic-engineering-nature-conservation-biological-diversity-bfn.pdf>
- A Bigger Conversation, 'Gene Editing and Conservation - the Unknown and the Unknowable'. December 2022, <https://abiggerconversation.org/gene-editing-and-conservation-the-unknown-and-the-unknowable/>
- A Bigger Conversation, 'Survey: Genome Editing in Conservation', September 2020, <https://abiggerconversation.org/survey-genome-editing-technologies-in-conservation/>
- Save our Seeds and Pollinis, 'Synthetic Biology = Genetic Engineering of Wild Species', October 2024
https://www.stop-genedrives.eu/wp-content/uploads/2024/10/Briefing_SynBio_Bruges.pdf
- Redford, K. H.; Adams, W.; Mace, G. M. (2013a): Synthetic Biology and Conservation of Nature: Wicked Problems and Wicked Solutions. In: PLoS Biology 11 (4), e1001530.
<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1001530>
- Redford et al., 'Genetic frontiers for conservation: An assessment of synthetic biology and biodiversity conservation', IUCN Report, 2019
<https://portals.iucn.org/library/sites/library/files/documents/2019-012-En.pdf>

- And this critique from ETC Group, ‘Driving Under the Influence: A review of the evidence for bias and conflict of interest in the IUCN report on synthetic biology and gene drive organisms’,
https://www.etcgroup.org/sites/www.etcgroup.org/files/files/etc-iucn-driving_under_influence.pdf
- Sandbrook, C., Beyond the Hype: Navigating the Conservation Implications of Artificial Intelligence, December 2024,
<https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/conl.13076>
- Heinnemann, JA, Agapito-Tenfen, SZ, Carman, JA ., A comparative evaluation of the regulation of GM crops or products containing dsRNA and suggested improvements to risk assessments, May 2013,
<https://www.sciencedirect.com/science/article/pii/S0160412013000494>
- BeeLife European Beekeeping Coordination, Does EU Law on GMOs Enable a High Level of Environmental Protection to be Achieved?, 2024, https://8e8ea45e-d3b1-4c0f-8009-56b8df6908d2.usrfiles.com/ugd/8e8ea4_e949ccc08d9640f1988aaefb4ffa7ebb.pdf

Gene drives

- Save our Seeds, ‘Gene Drive Film’, Youtube video (15 mins), Jan 2020
https://www.youtube.com/watch?v=PLt6ILhQZ7E&ab_channel=SaveourSeeds
- Sarah Hartley and Tom Law, ‘Should we create gene drive grey squirrels?’, Youtube video (18 mins), 2022 https://www.youtube.com/watch?v=4DyuLbzpsaM&ab_channel=GenedriveGovernance
- Boëte, C., (2025), Gene drive: communication, hype and the public, In: Journal of Medical Entomology, <https://academic.oup.com/jme/advance-article/doi/10.1093/jme/tjaf007/8063663>
- Save our Seeds, ‘Gene Drive Organisms: A new dimension of genetic engineering. Applications, risks and regulation’, May 2021 <https://www.stop-genedrives.eu/en/own-publications/>
- Simon, S.; Otto, M.; Engelhard, M. (2018): Synthetic gene drive: between continuity and novelty. In: EMBO reports 19 (5).
<https://www.embopress.org/doi/full/10.15252/embr.201845760>

- Kristian Hagen, Mathias Otto K. Stracke, Margret Engelhard, ‘Synthetic Biology, genetic engineering in the wild, and biological diversity’, September 2024
<https://brill.com/edcollchap-oa/book/9789004715509/BP000064.xml>

‘De-extinction’

- Martin Boer-Cueva, Dieter Hochuli, Marco Salvatori and Peter Banks, “‘De-extinction’ of dire wolves promotes false hope: technology can’t undo extinction, The Conversation, 16 April 2025 <https://theconversation.com/de-extinction-of-dire-wolves-promotes-false-hope-technology-cant-undo-extinction-254479>
- IUCN Species Survival Commission Canid Specialist Group Taxonomic Review Task Force. Conservation perspectives on gene editing in wild canids. Commentary on the announced re-creation of a genetic proxy of an extinct dire wolf by Colossal (IUCN SSC, 18th of April 2025)
<https://www.canids.org/resources/CSG%20gene%20editing%20in%20wild%20canids.pdf>

Trees

- Dr. Ricarda A. Steinbrecher, PhD. EcoNexus. Genetically Engineered American Chestnut: Discussion of the performance limitations of Darling 58/54.
https://www.econexus.info/files/ge-american-chestnut-darling-54_econexus-august-2024_0.pdf
- Canadian Biotechnology Action Network, ‘The Global Status of Genetically Engineered Tree Development: A Growing Threat’, 2022 <https://cban.ca/wp-content/uploads/The-Global-Status-of-Genetically-Engineered-Tree-Development-EN.pdf>
- The American Chestnut: An Environmental History, Donald Edward Davis (book), 2021,
<https://ugapress.org/book/9780820360454/the-american-chestnut/>
- GM Watch, ‘The American Chestnut Foundation pulls support for failed GM American Chestnut Tree’, December 2023 <https://www.gmwatch.org/en/106-news/latest-news/20343>.

Speakers

Dr Kristin Hagen, <https://www.bfn.de/en> <https://www.researchgate.net/profile/Kristin-Hagen-3>

Lois Breault-Melicann, <https://stopgetrees.org/about-lois/>

Christophe Boëte <https://isem-evolution.fr/en/membre/boete/>