

**Rewinding the process of mammalian extinction.**

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**Public Summary:**

With only three living individuals left on this planet, the northern white rhinoceros could be considered doomed for extinction. It might still be possible, however, to rescue the (sub)species by combining novel stem cell and assisted reproductive technologies. To discuss the various practical options available to us, we convened a multidisciplinary meeting under the name "Conservation by Cellular Technologies." The outcome of this meeting and the proposed road map that, if successfully implemented, would ultimately lead to a self-sustaining population of an extremely endangered species are outlined here. The ideas discussed here, while centered on the northern white rhinoceros, are equally applicable, after proper adjustments, to other mammals on the brink of extinction.

**Scientific Abstract:**

With only three living individuals left on this planet, the northern white rhinoceros (*Ceratotherium simum cottoni*) could be considered doomed for extinction. It might still be possible, however, to rescue the (sub)species by combining novel stem cell and assisted reproductive technologies. To discuss the various practical options available to us, we convened a multidisciplinary meeting under the name "Conservation by Cellular Technologies." The outcome of this meeting and the proposed road map that, if successfully implemented, would ultimately lead to a self-sustaining population of an extremely endangered species are outlined here. The ideas discussed here, while centered on the northern white rhinoceros, are equally applicable, after proper adjustments, to other mammals on the brink of extinction. Through implementation of these ideas we hope to establish the foundation for reversal of some of the effects of what has been termed the sixth mass extinction event in the history of Earth, and the first anthropogenic one. *Zoo Biol.* 35:280-292, 2016. (c) 2016 The Authors. *Zoo Biology* published by Wiley Periodicals, Inc.

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