

Scientists hope to save northern white rhino from extinction

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In this Friday, July 28, 2017 file photo, wildlife ranger Zachariah Mutai takes care of Sudan, the world's last male northern white rhino, at the OI Pejeta Conservancy in Laikipia county in Kenya. The health of 45-year-old Sudan is deteriorating and his minders said Thursday, March 1, 2018 that his "future is not looking bright." (AP Photo/Joe Mwhia, File)

As the health of the world's last male northern white rhino declines in Kenya, a global team of scientists and conservationists is pushing ahead with an ambitious effort to save the subspecies from extinction with the help of the two surviving females.

Participants in the project to create northern white rhino embryos through in vitro fertilization say its success depends not on the sick, elderly male named Sudan, but on his daughter Najin and granddaughter Fatu, whose eggs would likely have to be extracted because the [rhinos](#) can't reproduce naturally. Even so, Sudan, who could be euthanized because of a leg infection, is something of a celebrity, attracting thousands of visitors to his home at OI Pejeta Conservancy and being listed as "The Most Eligible Bachelor in the World" on the Tinder dating app last year in a

fundraising effort.

"Sudan has been technically infertile for many years, so him dying is not going to affect the possibilities of recovery for the northern white rhino as a species," Richard Vigne, the conservancy's CEO, said in an interview with The Associated Press.

Semen from dead northern white rhinos is stored in various locations around the world, and it is critical to keep the two females alive "until such time when the protocol or technique for in vitro fertilization has been perfected so that we can begin that process," Vigne said.



In this photo taken Wednesday, May 3, 2017, a ranger takes care of Sudan, the world's last male northern white rhino, at the OI Pejeta Conservancy in Laikipia county in Kenya. The health of 45-year old Sudan is deteriorating and his minders said Thursday, March 1, 2018, that his "future is not looking bright." (AP Photo)

In vitro fertilization is used in the cattle industry to breed more robust herds, and a Cape buffalo was conceived through IVF for the first time in 2016. However, scientists trying to effectively resurrect

the northern white rhino have limited genetic material at their disposal and plan to use another subspecies, the southern white rhino, as a surrogate mother.

Contributing institutions include San Diego Zoo Global in the United States, the Leibniz Institute for Zoo and Wildlife Research in Berlin and Embryo Plus, a South African company that worked on the IVF-born buffalo. Experts met in Vienna in December 2015 to discuss stem cell and other technologies with the goal of establishing viable populations of northern white rhinos decades in the future.

Supporters think the work could be used to help other endangered species, while some conservationists believe the focus should be on other critically endangered species, including the Javan and Sumatran rhinos, that have suffered because of poaching and human encroachment on habitats. Northern white rhinos were particularly vulnerable because of conflicts that swept their central African range; the last ones in the wild were observed more than a decade ago in Congo's Garamba National Park, a frequent target of well-armed poachers.

The "much-hyped" plan for rhino in vitro fertilization is probably too late to save the northern white subspecies, said Save the Rhino, a London-based group.

sole remaining male northern white rhino, 45-year-old Sudan who also lives at Ol Pejeta, is deteriorating and his minders said Thursday that his "future is not looking bright." (AP Photo/Sunday Alamba)

"With small chance of healthy new calves, and limited place in their historic range to go, Save the Rhino believes that the best outcome will be to put our efforts and funding—including research into IVF—into saving the species which do still have a chance," it said on its website.

"The real fight for the survival of northern white rhinos in their natural habitat was lost over a decade ago," said Jo Shaw, African rhino expert with the WWF conservation group. "Large mammals, like rhinos, should be seen as symbols of large functioning ecosystems and we must focus our efforts and energy on their protection and ongoing survival within these vital landscapes around the globe."

The rhino Sudan, 45, is the father of 27-year-old Najin, who has weak back legs and can't support the weight of a pregnancy, and grandfather of 17-year-old Fatu, who can't carry an embryo because of a uterus problem.

A non-surgical method that would remove rhino eggs with a needle inserted through the rectal wall into the ovary is being developed, said Morne de la Rey, director of Embryo Plus.



Fatu, centre, and Najin, left, the only two female northern white rhinos left in the world, graze where they are kept for observation, at the Ol Pejeta Conservancy in Laikipia county in Kenya Friday, March 2, 2018. The health of the



Najin, centre, one of only two female northern white rhinos remaining in the world, graze in the pen where she

is kept for observation, at the OI Pejeta Conservancy in Laikipia county in Kenya Friday, March 2, 2018. The health of the sole remaining male northern white rhino, 45-year-old Sudan who also lives at OI Pejeta, is deteriorating and his minders said Thursday that his "future is not looking bright." (AP Photo/Sunday Alamba)

So far, "two cell and four cell" embryos of southern white rhinos, using eggs taken from animals killed by poachers, were created in the lab but did not mature enough for transfer to the womb, de la Rey said. The technique will only be tried with the northern white rhino subspecies if it is successful with southern white rhinos, whose population recovered from the edge of extinction around the end of the 19th century but still faces an intense poaching threat.

"It is literally a race against time," de la Rey said.

The last male northern white rhino was born in Sudan, taken to a Czech zoo and then transferred to Kenya in 2009 along with Najin, Fatu and another male who died in 2014. Rangers caring for Sudan describe him as gentle and say they are sad about his possibly imminent death.

"He is the reason for me waking up, knowing that I am going to do something," ranger James Mwenda said.



Keeper Zachariah Mutai attends to Fatu, one of only two female northern white rhinos remaining in the world, walks in the pen where she is kept for observation, at the OI Pejeta Conservancy in Laikipia county in Kenya Friday, March 2, 2018. The health of the sole remaining male northern white rhino, 45-year-old Sudan who also lives at OI Pejeta, is deteriorating and his minders said Thursday that his "future is not looking bright." (AP Photo/Sunday Alamba)

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