

Cryobiology & Fertility Preservation in Endangered Species

ONPRC Saturday Academy



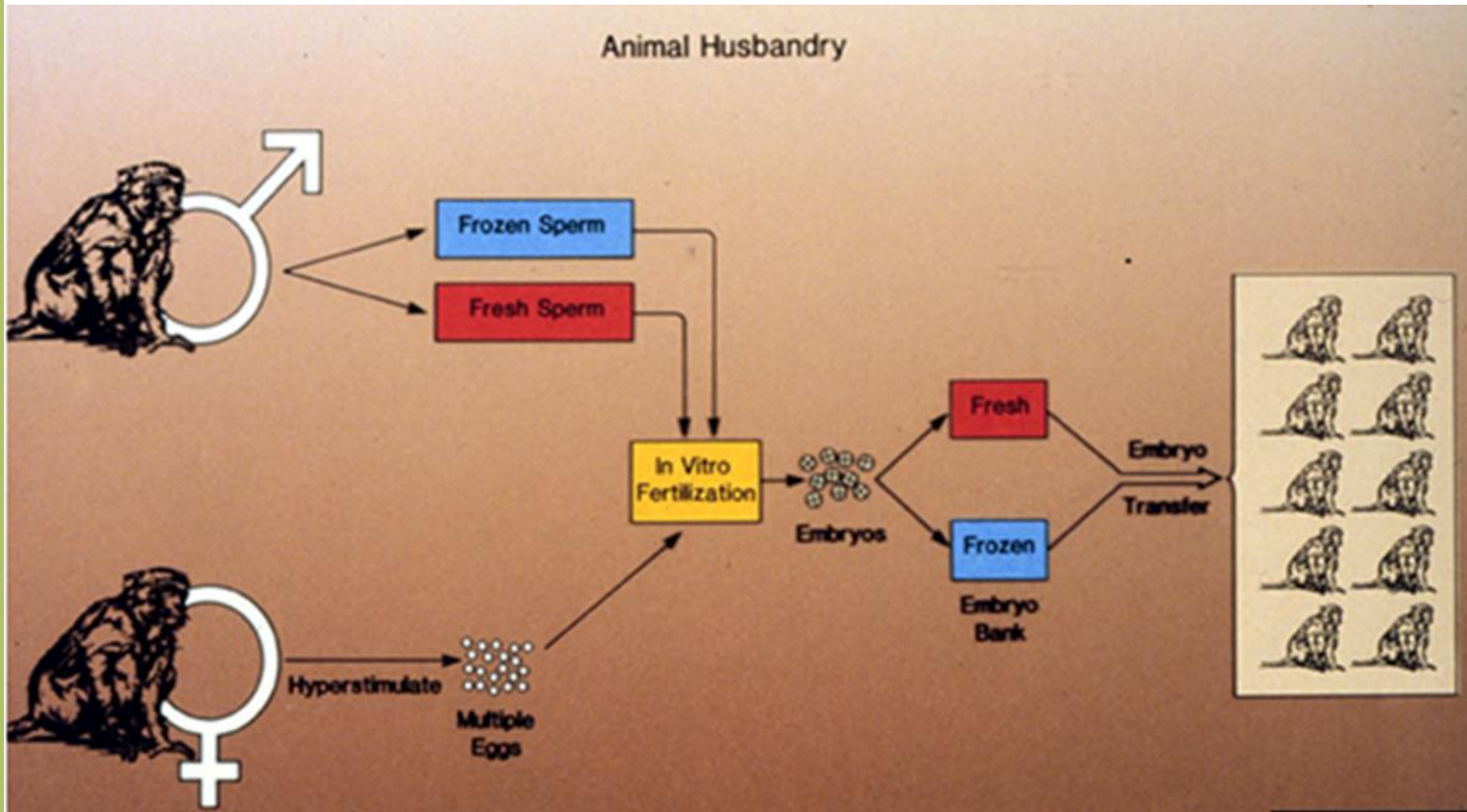
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Pandas are an endangered species.
There are only 1600 pandas in the wild in
their native habitat in southwest China.(1)



Photo: Abby Wood, Smithsonian's National Zoo <http://nationalzoo.si.edu/Animals/GiantPandas/>
(1) World Wildlife 2004 census <http://www.worldwildlife.org/species/giant-panda>

Preservation of Endangered Species



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- **Cryopreservation of sperm and embryos is being used to preserve endangered species.**
- **They are stored in liquid nitrogen at a temperature of -196°C – “a zoo in a freezer”.**
- **Sperm and embryos can be thawed and transferred to a female for live birth.**



Black –Footed Ferret



Cryobiology helped the National Zoo scientists breed black-footed ferrets, once thought to be extinct.

Photo: Meghan Murphy/NZP

<http://nationalzoo.si.edu/publications/zoogoner/2010/1/FrozenAssets.cfm>



Western Lowland Gorilla

Timu - First in the world Western Lowland Gorilla from *in vitro* fertilization non-frozen embryo

Cincinnati Zoo, born 1996

She now lives in the Henry Doorly Zoo, Omaha, Nebraska

Had a baby in August 2003 and April 2005



Photo: Courtesy of Cincinnati Zoo

Other Endangered Species Helped by Cryopreservation



Cheetah

<http://nationalzoo.si.edu/SCBI/EndangeredSpecies/Cheetah/>