

Saving Species Outside Their Natural Habitat

The evolution of Ex Situ conservation from physical sanctuaries to microscopic vaults.



Defining Ex Situ Conservation

IN SITU

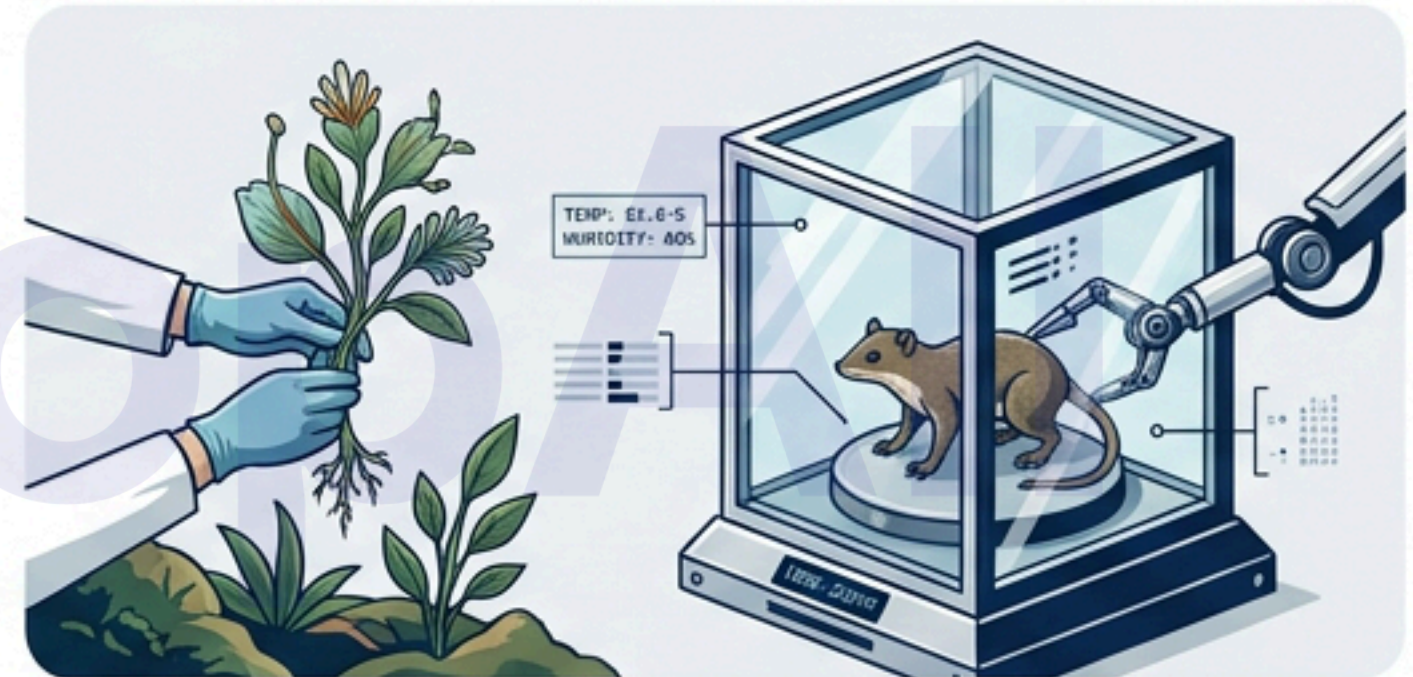
ON SITE



Protecting the entire ecosystem to save the species (e.g., saving the whole forest to save the tiger).

EX SITU

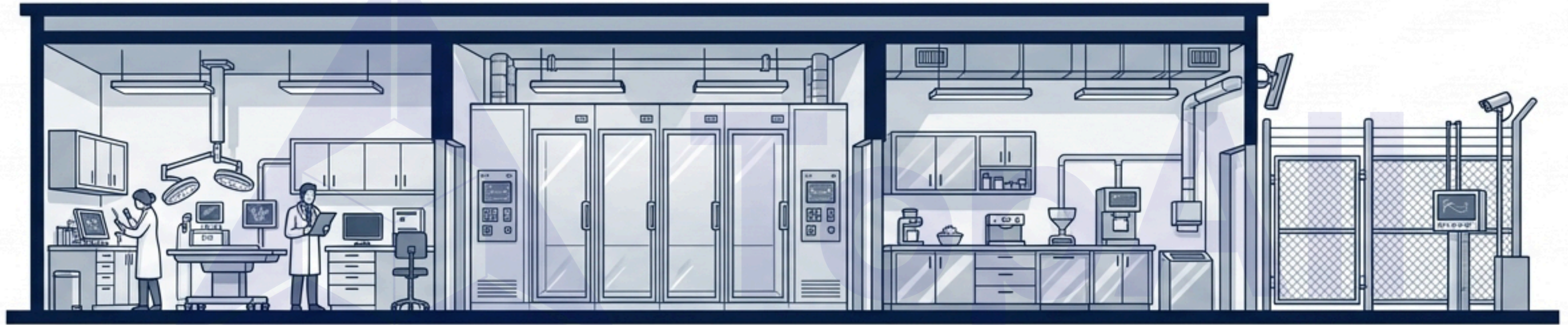
OFF SITE



Taking threatened animals and plants out of their natural habitat and placing them in a special setting for protection and care.

CRITICAL INTERVENTION: Deployed when organisms face a very high risk of extinction in the wild in the near future.

Zoological Parks: The Final Physical Refuge



Zoological parks serve as highly monitored off-site environments where endangered fauna are protected and given special care.

STATUS: EXTINCT IN THE WILD

Many animals that have entirely lost their natural habitats continue to be successfully maintained and protected exclusively within zoological parks.



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Simulated Habitats and Living Libraries

FLORA

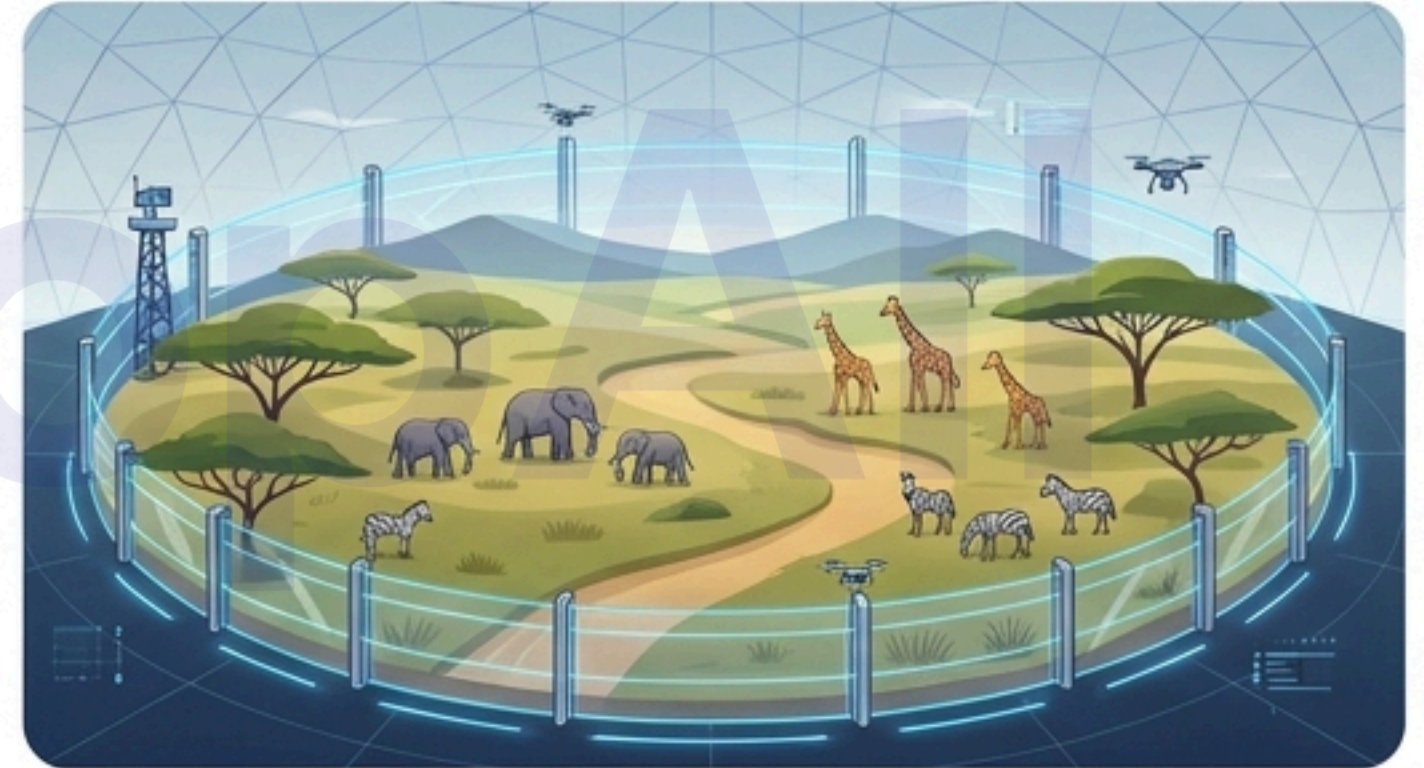
Botanical Gardens



Living libraries dedicated to the ex situ conservation of rare and threatened plant species. They provide specialized soil, climate, and biological care impossible to guarantee in degrading wild ecosystems.

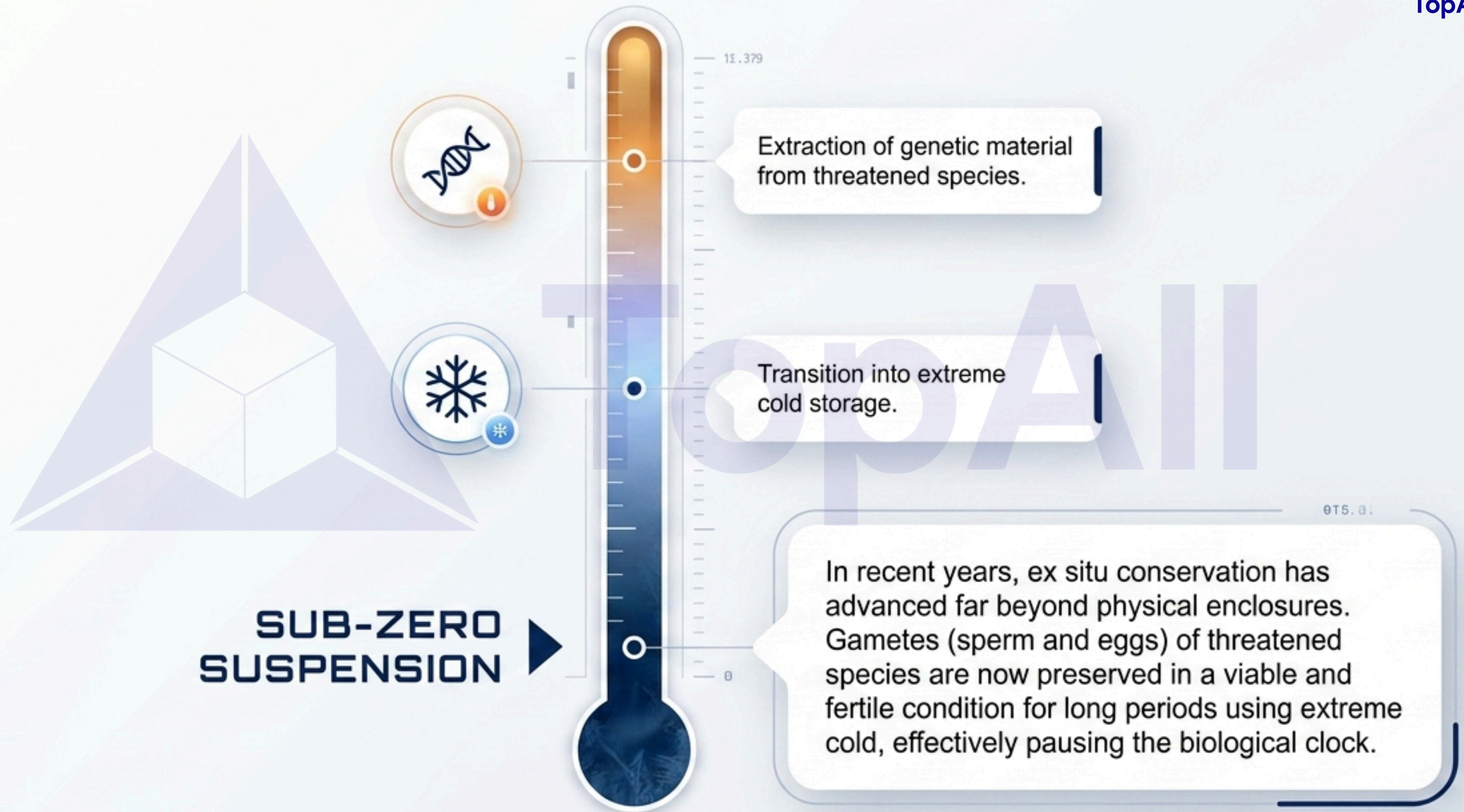
FAUNA

Wildlife Safari Parks



Simulated natural habitats that offer vast roaming areas for larger animals while maintaining a perimeter of strict protection, specialized care, and monitoring against poaching or starvation.

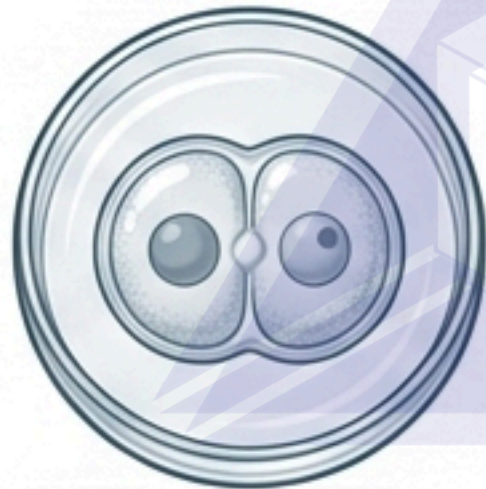
Cryopreservation: Suspending Biological Time



The Genetic Library: Micro-Level Preservation

Animal Reproduction

In Vitro Fertilisation (IVF)



Fertilising eggs outside the body in controlled laboratory environments to ensure reproductive success for critically endangered fauna.

Plant Cloning

Tissue Culture



Propagating entire living plants from microscopic tissue samples, allowing rapid multiplication of rare flora.

Genetic Strains

Seed Banks



Storing seeds of different genetic strains of commercially and ecologically important plants for long periods to safeguard genetic diversity.

Key Takeaway



Ex situ conservation has evolved from simply keeping threatened species in physical enclosures to preserving their very genetic building blocks.

Whether through zoological parks or microscopic seed banks, it serves as humanity's ultimate biological backup drive against extinction.



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