

Ex-Situ Conservation: Worthwhile?

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<http://www.globaltimes.cn/Portals/0/attachment/2011/531e3932-0d5c-4e71-ba46-b02d465ab9a1.jpeg>
<https://www.oxfordscientificfilms.tv/portfolio-item/pandas-3d-back-to-the-wild/>

A Zoo's Role

AZA Accreditation

US Fish and Wildlife Service

Captive-bred Wildlife Registration¹

What types of wildlife are covered?

Not all breeding programs are the same²



<http://zoos.wanderbat.com/l/76/Brookfield-Zoo>

<https://s-media-cache-ak0.pinimg.com/236x/ba/21/86/ba2186542de244651a558a6fc55e519e.jpg>

<https://magmilerunner.com/2016/08/27/lincoln-park-zoo/>

Requirements for a Successful Captive Breeding Program²

Habitat preservation and management
Protection of habitat from deforestation, degradation, and exploitation
Restoration and management of degraded habitats
Increase or maintenance of the number of preservation areas

Captive population
Ongoing research in behavior, genetics, physiology, nutrition, reproduction, and pathology
Genetic and demographic management of the population
Self-sustaining viable captive population

Field studies
Regular censuses of the size, distribution, and genetics of the wild population
Behavioral ecology studies (home range size, movements, habitat preferences, social organization, mating system, feeding, and anti-predator adaptations)
Locating existing suitable habitat containing critical resources for reintroduction

Conservation education for long-term support
Professional training through academic studies, workshops, internships, courses, and fellowships
Determining the most appropriate public relations and educational strategies through surveys
Public relations educational efforts using appropriate mass media (e.g., television, radio, magazines, and newspapers)
Local community education, both formal and informal

Preparation and reintroduction of animals
Choice of candidates and assessment of their characteristics for retrospective correlation with postrelease survival
Training in survival techniques, including foraging and feeding, antipredator tactics, locomotion, and orientation
Adaptation to local conditions at release site (food, climate and temperature, and disease)
Release and long-term monitoring to evaluate causes of death and basis for survival

To Name a Few Things...

Self-sustaining captive population³

Maintaining genetic diversity

Co-ops with other zoos but...

Quick domestication and adaptation to captivity^{2,4}



http://www.fs.usda.gov/Internet/FSE_MEDIA/fsbdev2_021382.jpg

<http://a57.foxnews.com/global.fncstatic.com/static/managed/img/Scitech/0/0/domesticated-silver-fox.jpg>



A Few More...

Suitable habitat upon release

Release area must have sufficient carrying capacity

Site must be legally protected

Limited wild population in area¹

Lack of predators²

Elimination of factors causing species decline (both pre- and post-captivity)

Hunting³

Disease²



<https://www.doi.gov/blog/15-facts-about-our-national-mammal-american-bison>

And A Few More...(see our point?)

Pre- and post-release training¹

6 major areas of development

Cost Effective?

Estimated to cost a half million dollars per species per year²

Competes for funding with in-situ conservation²

Cleansing diseased facilities extremely expensive²



Supposed “Successful” Programs

Whooping Cranes⁷

Wild Ones

Disease outbreak within captivity

Cost \$12,000 per individual, per year



Black Footed Ferret

Cost \$400,000 per survivor⁵

90% mortality rate⁵

Inbreeding occurred in reintroduced populations⁶

Distemper²



http://dnr.wi.gov/news/images/slideshows/20131015_whoopingcrane/3.jpg

<http://www.animalspot.net/wp-content/uploads/2015/05/Black-Footed-Ferret-Pictures.jpg>

Where Do We Go From Here: Role of Zoos

What we're NOT trying to say

“Nonrecovery” forms of captive-breeding

Public education

Research

In situ conservation



Where Do We Go From Here: Money Allocation

Less decision-making between high-quality, many small plots of land and large plots

Getting locals more involved in conservation

Fishing industry



In Conclusion...

There are too many requirements for a captive-breeding program to be successful

Programs themselves are extremely expensive and ineffective

Conserved funds should be allocated towards more economical and reliable methods

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Thanks for
listening!
Any questions?