



What do AZA-Accredited Zoos and Aquariums Contribute to Conservation?

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**ASSOCIATION
OF ZOOS &
AQUARIUMS**

Outline

- Contributing to Conservation
- Annual Report on Conservation Science – Background & Today
- Recent Survey Results
- Future Directions



Contributing to Conservation

Conservation is a primary goal of zoos and aquariums accredited by the Association of Zoos and Aquariums (AZA) with eight related accreditation standards:

- Mission related
- A written conservation action plan/strategy
- Activities should be evaluated and measured for impact
- Participation in SSPs
- Support and participate in AZA, Animal Programs, and others' wildlife conservation programs
- Demonstrate responsible energy and natural resource conservation



Species Recovery

- Evidence of saving species from brink of extinction in the long-run
- Last individuals of a species brought into accredited facilities, and / or managed population used to establish new wild populations
 - Arabian oryx in the Arabian Peninsula – EW → VU
 - Przewalski's horse in northwestern China – EW → EN
 - Golden lion tamarin in Brazil – CR → EN
 - Black footed ferret in US – 18 individuals found, now 1000 in wild
 - American burying beetle on Nantucket Island – reintroductions halted, population experiencing growth



How Do We Know What Members Do?

- Annual survey of AZA membership, the Annual Report on Conservation Science (ARCS)
- In place since 1990
- One respondent per facility, identified by director



History of ARCS

- 1990-2009
 - Definition of what to include changed over time & interpretation varied
 - Very broad - included field initiatives, research, conservation education, and “green” projects
 - Reporting system changed at least three times



History of ARCS

- Results over time (1990-2009)
 - Cumbersome process frustrated survey respondents
 - Too much to report led to less data submitted
 - Data biased toward respondent expertise
 - Difficult to review and / or draw conclusions



ARCS Today

- 2010 – present
 - Focus narrowed to projects with a *direct impact on animals in the wild* (Field Cons. Cmte. & AZA Staff)
 - Definition standardized interpretation of what to include
 - Submissions reviewed FCC members, feedback discussed with members
 - Survey tweaked to capture priority information
 - New online system informed by process (2013 soft launch for 2012 activity)



2010 – 2011 Results

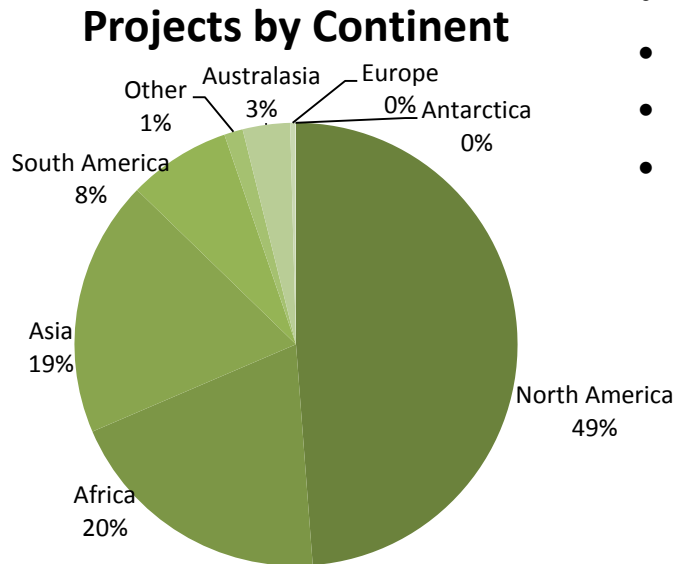
- 2010 - \$130 million spent (186 of 239 facilities responded)
- 2011 - \$160 million spent (184 of 241 facilities responded)
- Facilities spending the most, as compared to their annual budget:

International Crane Foundation	Monterey Bay Aquarium	Los Angeles Zoo and Botanical Gardens
Alaska Sealife Center	Vancouver Aquarium Marine Science Centre	Dallas World Aquarium
WCS – Bronx Zoo	Memphis Zoo	San Diego Zoo
WCS – Central Park Zoo	Temaiken Foundation	San Diego Zoo Safari Park
WCS –Queens Zoo	Tracy Aviary	South Carolina Aquarium
WCS – Prospect Park Zoo	Bramble Park Zoo	Omaha's Henry Doorly Zoo
WCS – New York Aquarium	Tampa's Lowry Park Zoo	North Carolina Zoological Park
Virginia Aquarium & Marine Science Center	Zoo Atlanta	Cheyenne Mountain Zoo
Zoo Boise	Smithsonian National Zoological Park	Lincoln Park Zoo
Gladys Porter Zoo	Fossil Rim Wildlife Center	Western North Carolina Nature Center
New England Aquarium	Columbus Zoo and Aquarium	Denver Zoological Gardens
Toronto Zoo	Woodland Park Zoo	Oglebay's Good Zoo

Where Do AZA Facilities Work?

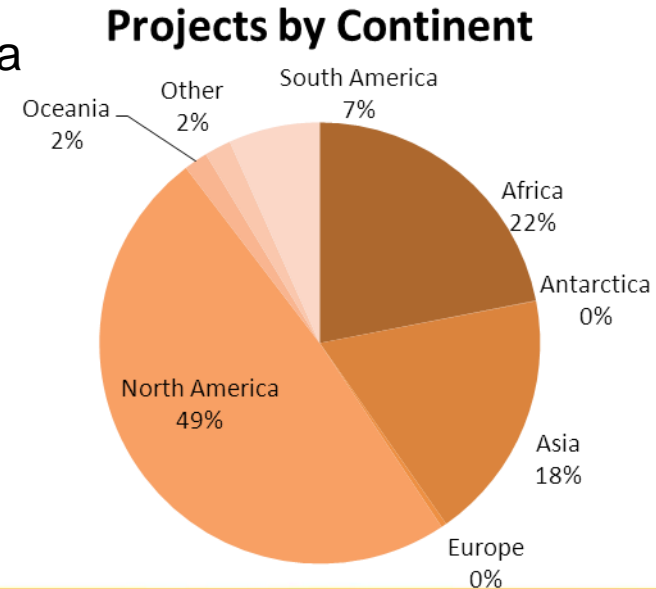
2010:

- United States
- Kenya
- Canada
- China
- Mexico



2011:

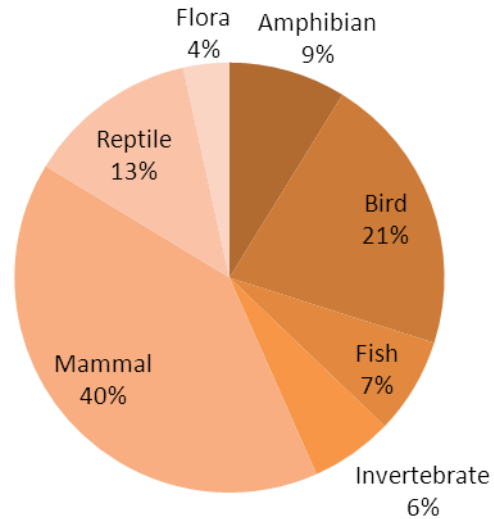
- United States
- Kenya
- Canada
- China
- Congo



Target Taxon

- In 2011, projects targeted 692 species
 - WAZA review showed mammal bias of 50% (Gusset & Dick 2010)

Number of Species (n=692)



Target Species

- The ten species with the most projects were all mammals
- Birds were the target of 21% of projects

Mammals	IUCN Status
Cheetah	VU
Elephant, African	VU
Dog, African Hunting	EN
Chimpanzee	EN
Lion	VU
Jaguar	NT
Leopard, Snow	EN
Elephant, Asian	EN
Zebra, Grevy's	EN
Bear, Polar	VU

Birds	IUCN Status
Penguin, Humboldt	VU
Penguin, African	EN
Ostrich, Red-necked	CR
Plover, Piping	NT
Crane, Whooping	EN
Swan, Trumpeter	LC
Condor, California	CR
Macaw, Scarlet	LC
Condor, Andean	NT



Additional Target Species

Reptiles	IUCN Status
Turtle, Loggerhead	EN
Turtle, Green	EN
Turtle, Blanding's	EN
Turtle, Red-necked Pond	EN
Dragon, Komodo	VU
Terrapin, Diamondback	NT
Crocodile, Philippine	CR
Turtle, Atlantic (Kemp's) Ridley	CR

Amphibians	IUCN Status
Hellbender	NT
Toad, Puerto Rican Crested	CR
Frog, Panamanian Golden	CR
Frog, Oregon Spotted	VU
Toad, Wyoming	EW
Toad, Kihansi Spray	EW
Salamander, Chinese Giant	CR

Fish	IUCN Status
Shark, Sixgill	NT
Shark, Whale	VU

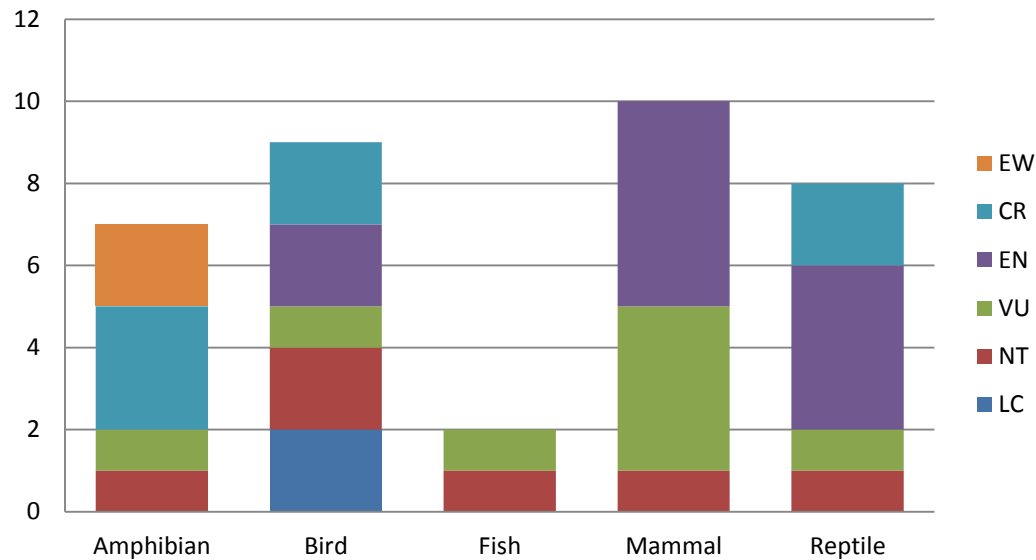
Invertebrates	Status
Butterfly, Karner Blue	ESA
White Faced Bee	NotListed
Butterfly, Monarch	NotListed
Butterfly, Oregon Silverspot	ESA



Target Species

- 40 most frequently supported species are generally of conservation concern

IUCN Status per Taxon



Outcomes of Recent ARCS Surveys

- Shared Results
 - Directors received letters recapping their contributions (2010 results)
 - Directors Policy Meetings (2011 and 2012)
 - Presentations at AZA Conferences (2011 and 2012)
 - Press release (2013)
 - Online, searchable database newly available to AZA members
- Increased Support
 - Facilities identifying ways to increase amount dedicated to field conservation
 - High level of interest in evaluating and maximizing impact



Conservation is More than just “Field”

- Focus on “direct impacts on animals in the wild” excludes many elements of conservation, including:
 - Conservation education
 - Research
 - Green / sustainable practices
- Appropriate committees & AZA staff are developing appropriate definitions and surveys
 - Conservation Education Committee
 - Research & Technology Committee
 - Green Scientific Advisory Group



Future ARCS

- Some metrics may differ, for example:
 - Research - # of graduate degrees conferred
 - Education - # of students engaged
 - GSAG - # of facilities documenting annual energy usage
- Some projects will overlap areas, for example:
 - Conducting health assessments of endangered species
 - Supporting schools in regions with high biodiversity
 - Reducing impervious surfaces (e.g., parking lots or roofs) to minimize run-off in imperiled waterways



Ultimate Scope and Vision

- To describe fully the multi-dimensional contributions that accredited zoos and aquariums make to conservation
 - Data are internally consistent
 - What is being described is clear and transparent
 - Information is accessible, widely utilized, and inspires ever-more impactful conservation action



Thank you!

- For questions / comments, contact:
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 - Visit: <http://www.aza.org/annual-report-on-conservation-and-science/>

