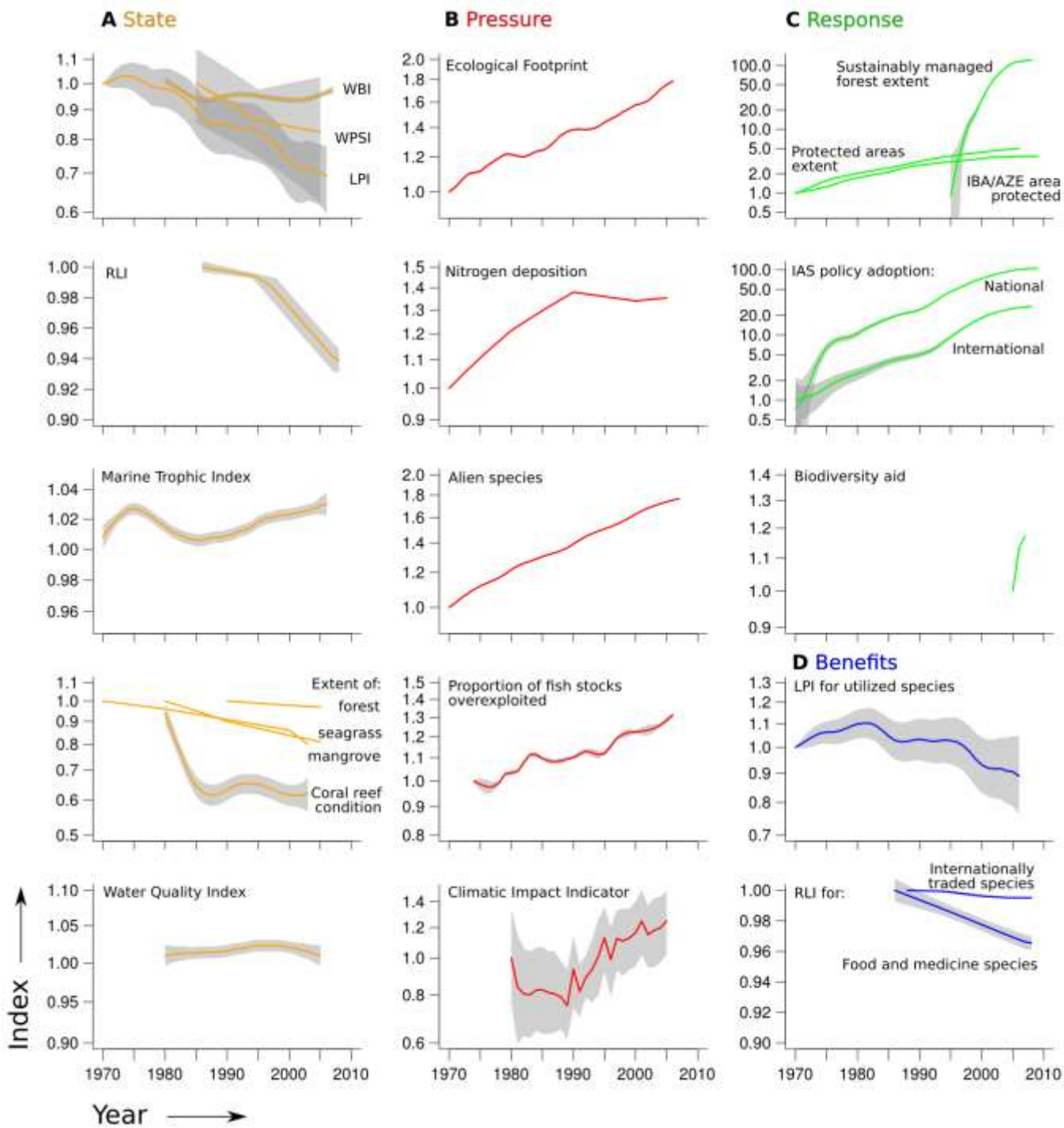


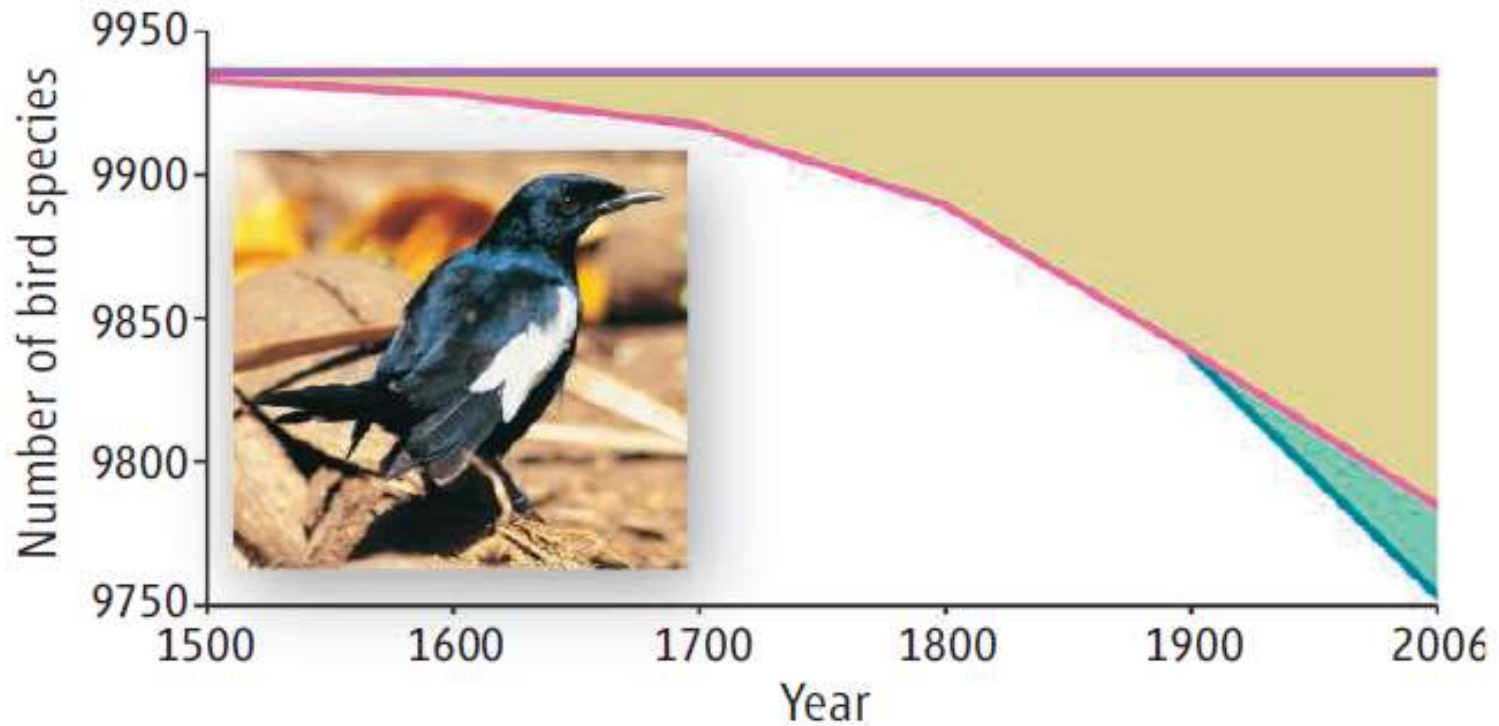
# The difference conservation makes



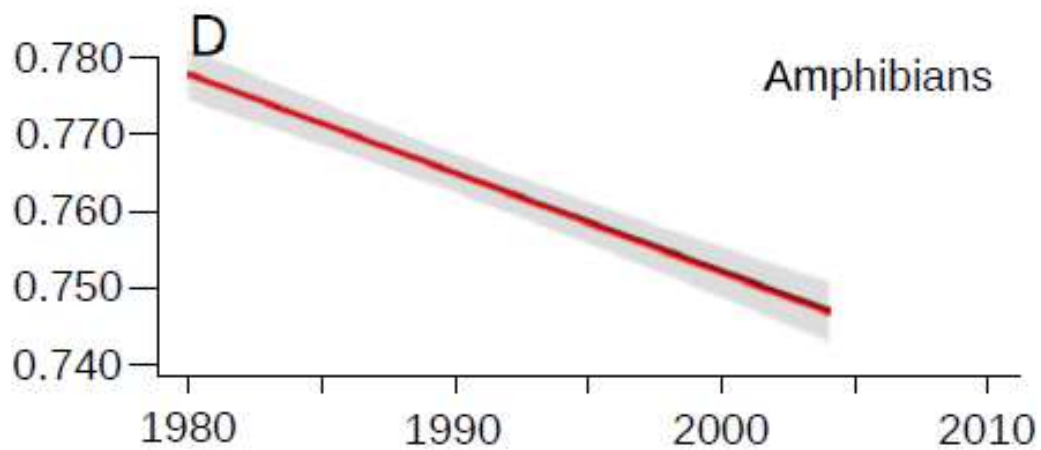
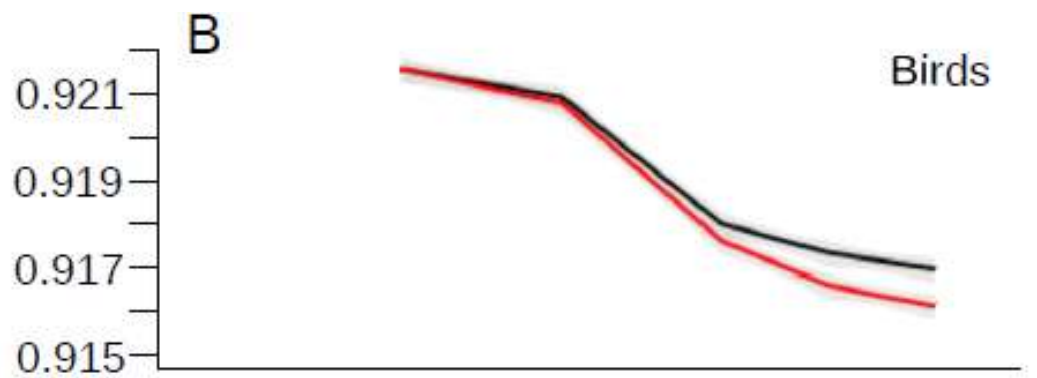
“None, however, focus and elaborate on the key feature of the evaluation process whose ... adoption would do the most good for distinguishing cause and effect in conservation initiatives:  
the measurement of *counterfactual outcomes*”

**Counterfactual:** The outcome that would have happened if there had been no conservation intervention





- Expected number of species in absence of human activities
- Observed number of species
- Predicted number of species in absence of conservation action
- Impact of human activities
- Impact of conservation action



# Impact underestimated

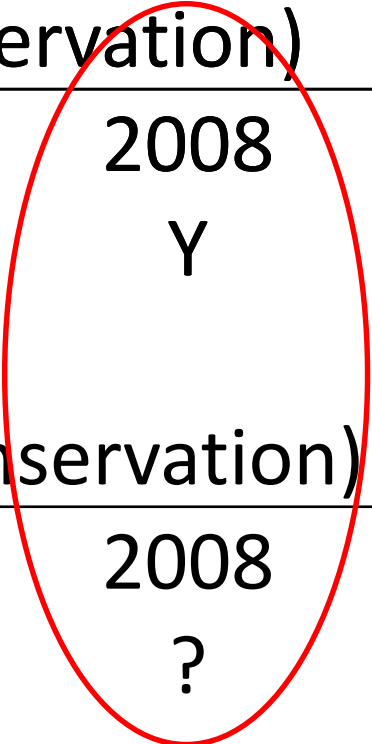
- Hoffmann *et al.* (2010) don't account for species that would have deteriorated further in the absence of conservation actions
- Butchart *et al.* (2006) do, but only account for species in one category (CR)
- Neither study accounts for species that improved numerically, although not enough to change Red List status

# Deriving a better estimate

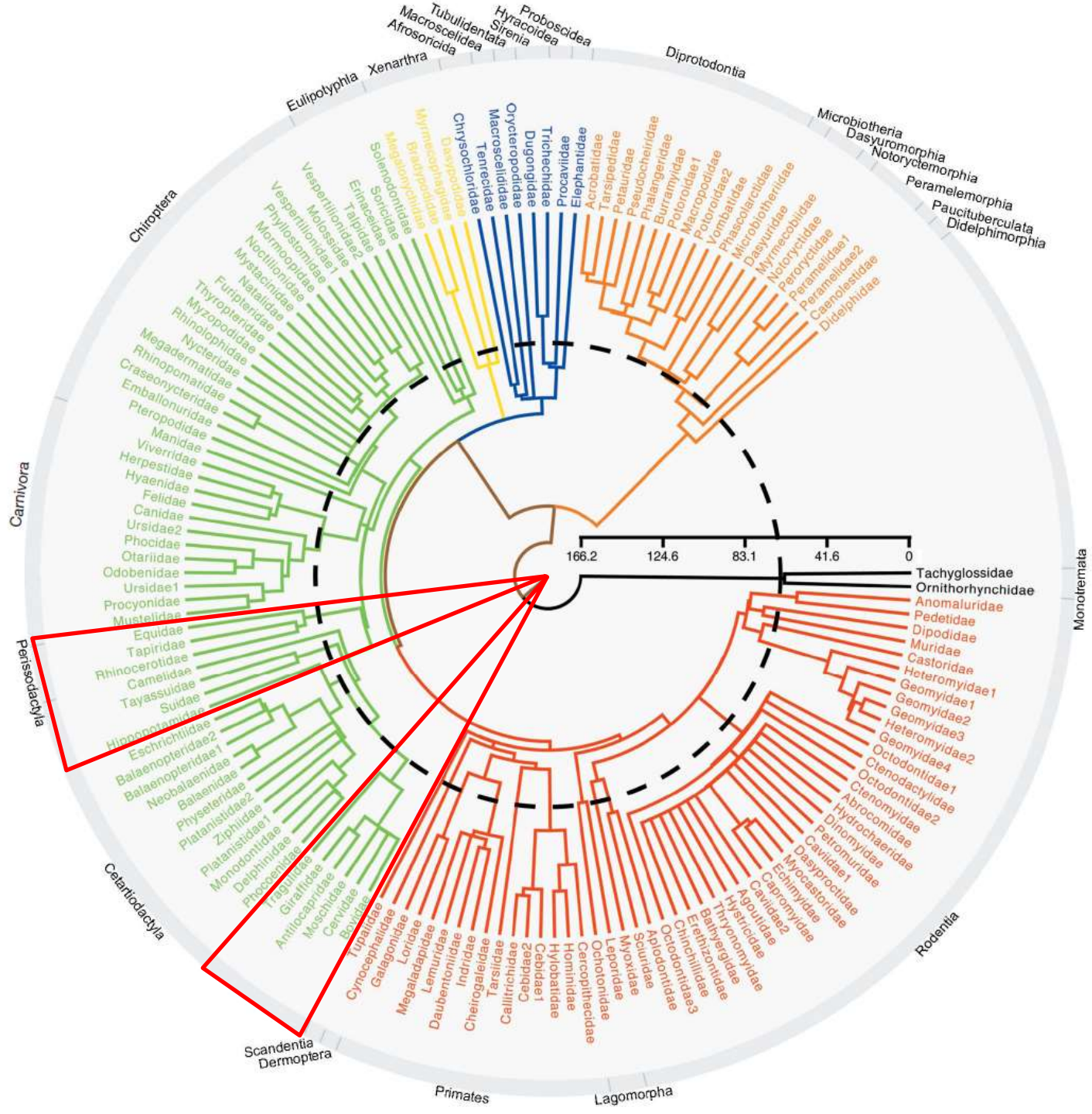
Observed (with conservation)		
Year	1996	2008
RL Cat	X	Y

Counterfactual (no conservation)		
Year	1996	2008
RL Cat	X	?







Bininda-Emonds et al. 2010; Nature



**ARKive**  
www.arkive.org



© Wardene Weisser /  
www.ardea.com

*Gazella spekei*

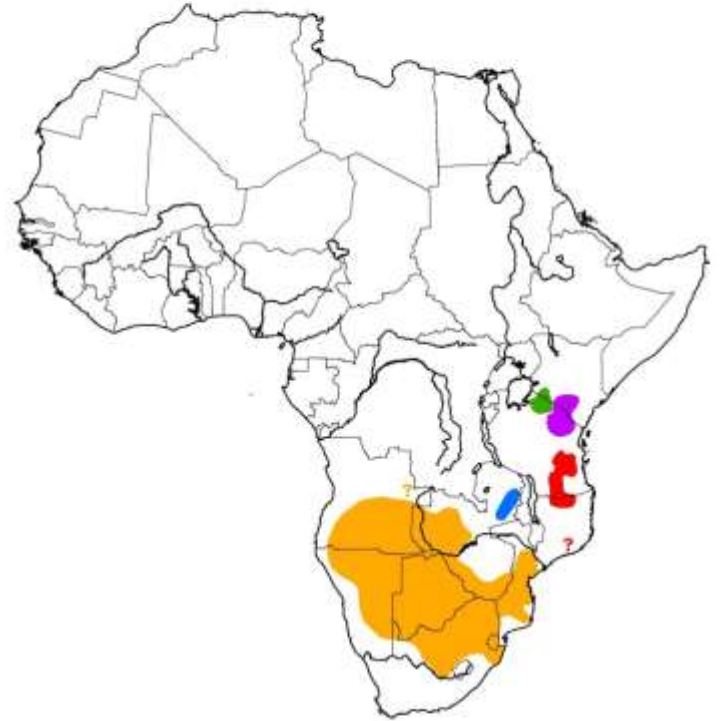


**ARKive**  
www.arkive.org

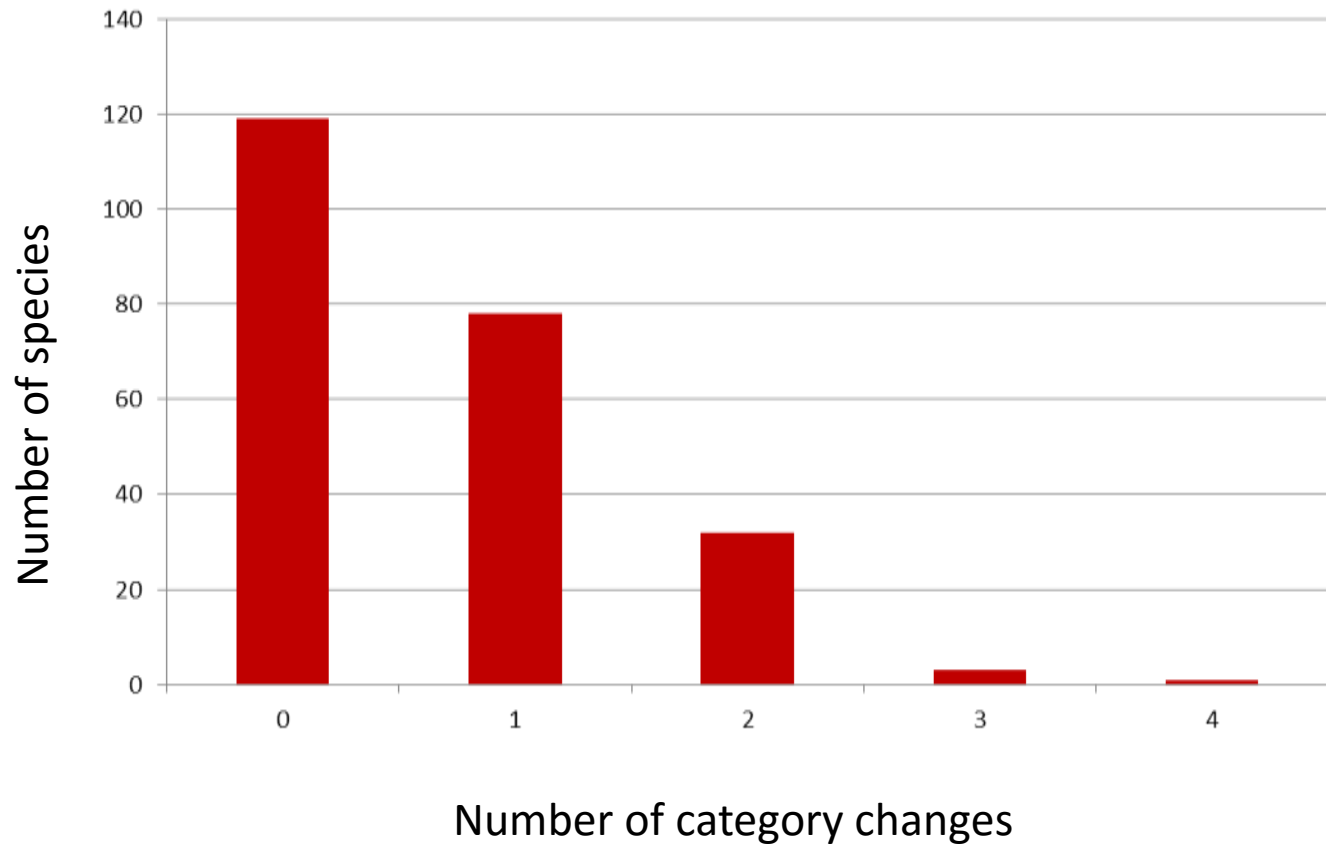


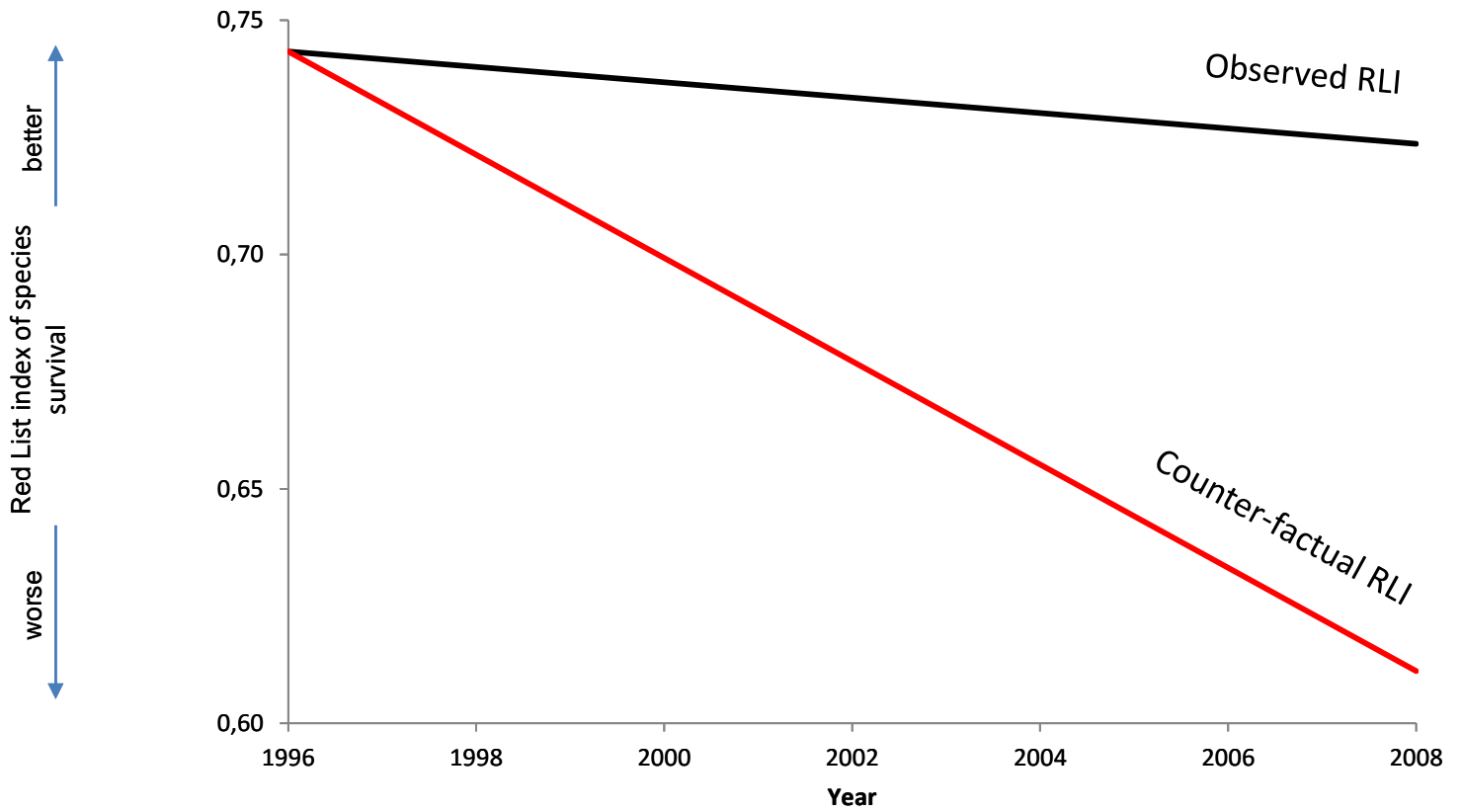
© Vincent Munier / naturepl.com

*Connochaetes taurinus*



-  *C. t. albojubatus*
-  *C. t. cooksoni*
-  *C. t. johnstoni*
-  *C. t. mearnsi*
-  *C. t. taurinus*





Species	IUCN Red List Category		
	1996	2008 observed	2008 counter- factual
<i>Rhinoceros sondaicus</i>	CR	CR	EX
<i>Oryx leucoryx</i>	EN	EN	EW
<i>Beatragus hunteri</i>	CR	CR	CR(PE)
<i>Dama mesopotamica</i>	EN	EN	CR(PE)
<i>Rhinoceros unicornis</i>	EN	VU	CR(PE)
<i>Porcula salvania</i>	CR	CR	CR(PE)
<i>Axis kuhlii</i>	EN	CR	CR(PEW)



# Extinction of the Javan Rhinoceros (*Rhinoceros sondaicus*)

Authors:  
 Sarah Brook, WWF Vietnam  
 Peter Van Coeverden de Groot, Queen's University,  
 Canada  
 Simon Mahood, WWF Vietnam



