Supplementary material

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Table S1. Sensitivity analysis. All parameters are followed by the value that they are tested against. JMort is juvenile mortality, AMort is adult mortality, SDMort is the standard deviation in mortality for both juvenile and adults. An increase in the mean number of progeny was tested under ProgenyIncrease, where the percentage indicate the increase. The length of the run was 25, and these are the results after year 25.

Scenario	PE	*N* extant (SD)	GeneDiv (SD)	MeanTE
No inbreeding	0.999	3.00 (0.00)	0.4444 (0.0000)	11.8
25% inbreeding	1	0.00 (0.00)	0.0000 (0.0000)	11.7
75% inbreeding	1	0.00 (0.00)	0.0000 (0.0000)	11.8
Lethal equivalents 12	1	0.00 (0.00)	0.0000 (0.0000)	11.6
Lethal equivalents 24	1	0.00 (0.00)	0.0000 (0.0000)	11.5
JMort 14%	0	119.73 (15.82)	0.9252 (0.0165)	0.0
JMort 28%	0	106.35 (24.92)	0.9229 (0.0196)	0.0
JMort 77%	0.992	2.75 (0.71)	0.6003 (0.1415)	14.6
JMort 92%	1	0.00 (0.00)	0.0000 (0.0000)	9.2
JMort 98%	1	0.00 (0.00)	0.0000 (0.0000)	6.8
AMort 28%	0.997	2.33 (0.58)	0.6574 (0.0561)	13.1
SDMort 20%	1	0.00 (0.00)	0.0000 (0.0000)	9.6
ProgenyIncrease 10%	1	0.00 (0.00)	0.0000 (0.0000)	11.9
ProgenyIncrease 20%	0.998	4.00 (2.83)	0.4722 (0.1375)	12.3
ProgenyIncrease 30%	0.999	8.00 (0.00)	0.8672 (0.0000)	13.1
ProgenyIncrease 50%	0.983	3.65 (1.41)	0.6696 (0.1478)	14.0
ProgenyIncrease 100%	0.950	7.84 (8.22)	0.7105 (0.1453)	15.9

Table S2. Results from scenario 2 when individuals of all age classes are allowed to disperse. No. dispersing is the number of individuals of each sex and age class dispersing from the captive into the wild population, the number in parenthesis is the total number of individuals released into the wild. The length of the run was 25, and these are the results after year 25.

		No. dispersing	PE	N extant (SD)	GD (SD)	MeanTE
Dispersal age 1–11, N(captive) = 20						
K = 50	Wild	2 (44)	0.142	5.74 (2.21)	0.7405 (0.0965)	16.9
	Captive		0.030	46.48 (7.64)	0.7983 (0.0646)	15.4
	Wild	3 (66)	0.097	8.29 (2.83)	0.7694 (0.0836)	17.9
	Captive		0.076	45.44 (8.70)	0.7984 (0.0640)	13.3
	Wild	4 (88)	0.124	10.92 (3.96)	0.7800 (0.0737)	17.1
	Captive		0.136	43.32 (10.69)	0.7924 (0.0651)	12.2
	Wild	5 (110)	0.212	13.52 (4.60)	0.7870 (0.0719)	16.4
	Captive		0.260	42.13 (12.15)	0.7893 (0.0709)	12.6
Dispersal age 1–11, N(captive) = 40						
K = 50	Wild	2 (44)	0.134	5.67 (2.13)	0.7545 (0.0880)	17.1
	Captive		0.004	47.32 (6.81)	0.8192 (0.0531)	16.0
	Wild	3 (66)	0.037	8.61 (3.25)	0.7832 (0.0769)	18.1
	Captive		0.009	46.49 (7.64)	0.8119 (0.0594)	21.0
	Wild	4 (88)	0.022	11.28 (3.81)	0.8006 (0.0635)	17.8
	Captive		0.032	44.88 (9.64)	0.8141 (0.0561)	20.0
	Wild	5 (110)	0.047	13.63 (4.68)	0.8096 (0.0598)	20.1
	Captive		0.093	43.20 (10.75)	0.8122 (0.0595)	20.4

Figure S1. The mean final population size of extant populations (N) in individuals (right axis), the remaining genetic diversity (%) and risk of extinction (PE, %) plotted against varying juvenile mortality rates in the sensitivity analysis in Scenario 1.
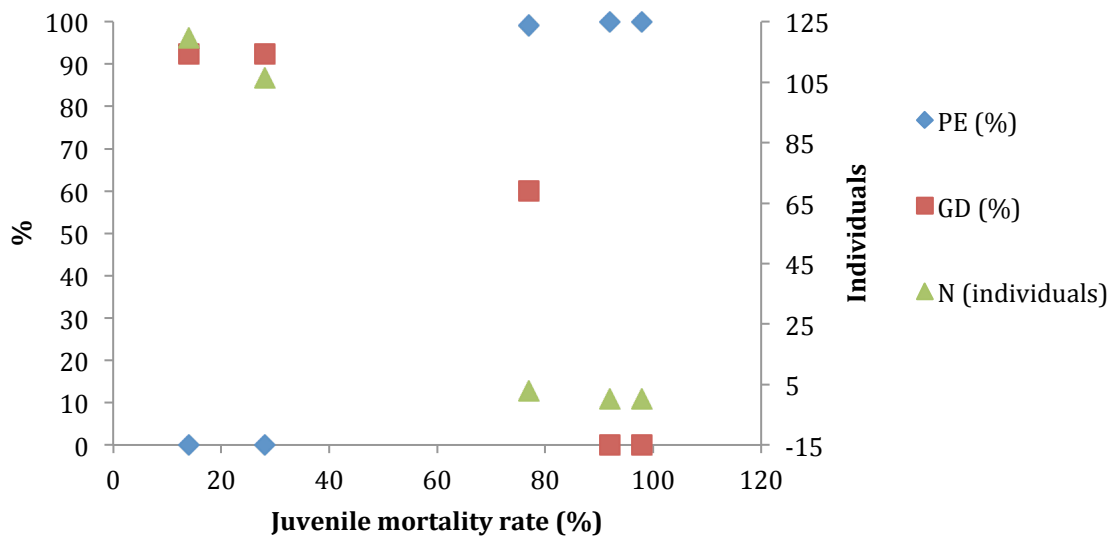
Figure S2. The final population size N plotted against the initial size of the managed population in scenario 3. The carrying capacity K of the managed population was varied. The length of the simulations was 25 years.
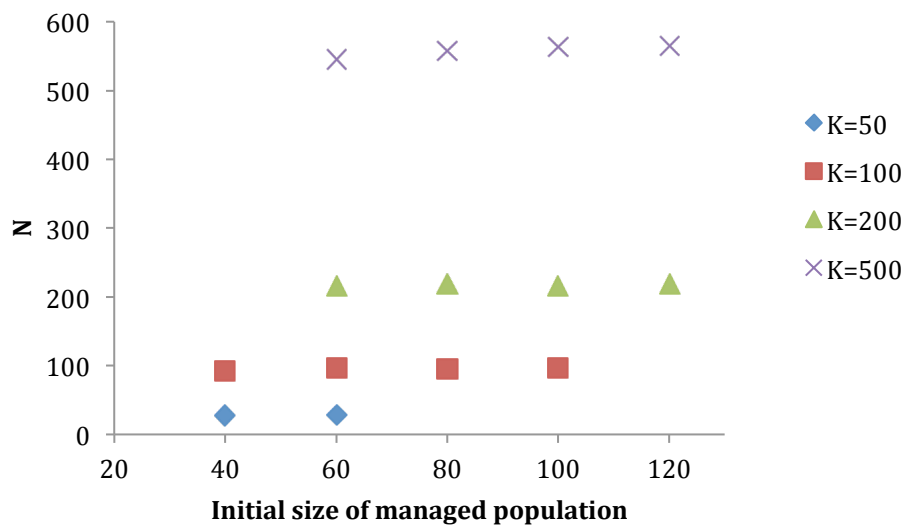
Figure S3. The risk of extinction (PE, in %) in the captive population in scenario 4 plotted against the initial size of the managed population. The number of birds released into the wild is included, with the number of individuals of each sex and age class being displayed first, and the number in parenthesis represent the total number of individuals released on a yearly basis during 25 years or as long as the captive population remain extant.
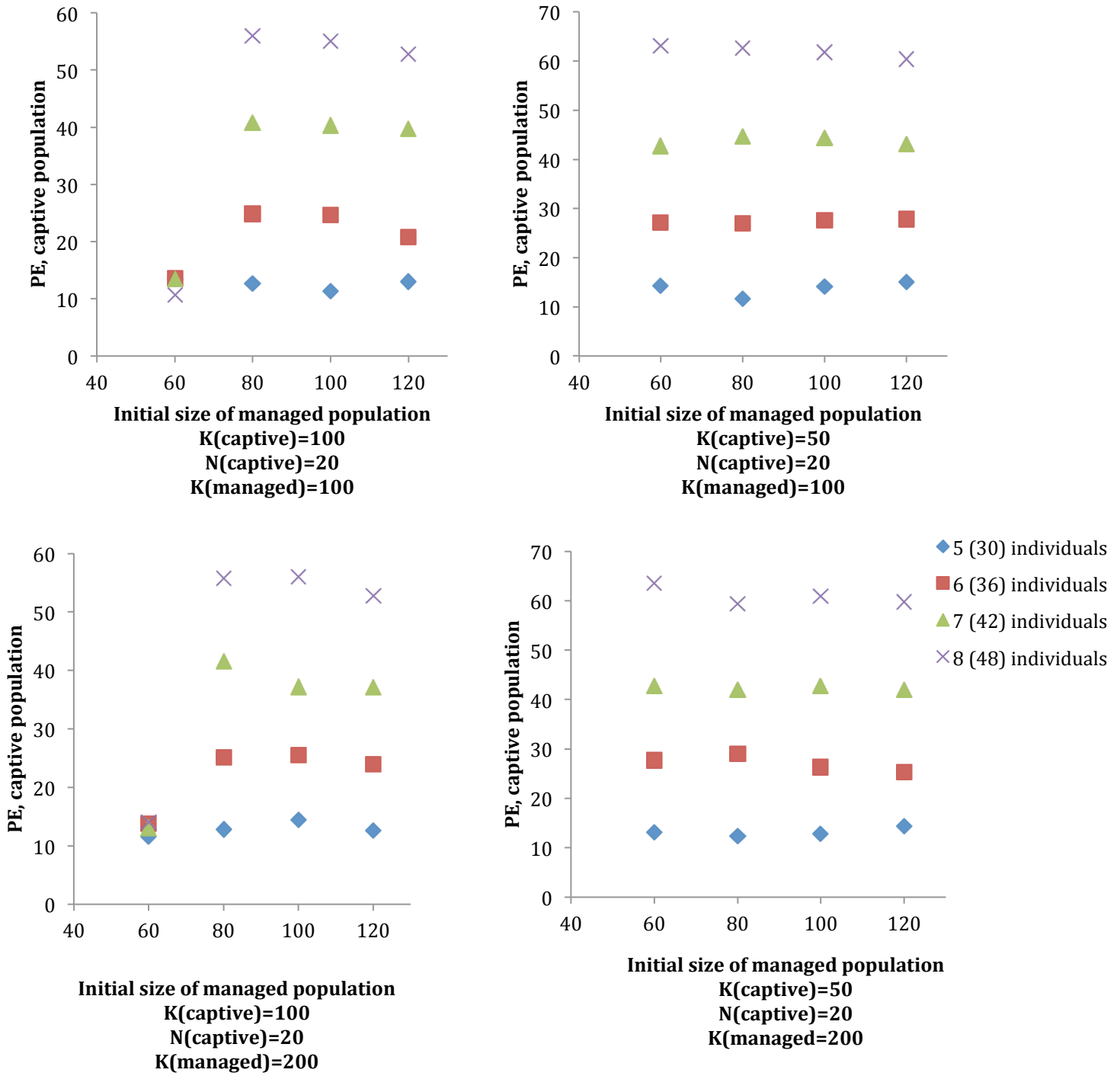
Figure S4. The final population size N of the managed wild population in scenario 4 after 25 years of simulations. The N is plotted against the initial size of the managed wild population, and include data on the number of individuals released into the population every year or as long as the captive population persisted. First, the number of individuals to be released of each sex within the age classes 1–3 years is listed, the total number is found in parenthesis.