

SUPPLEMENTARY MATERIAL 8. Two-species occupancy models depicting occupancy (ψ) and detection probability (r) for mountain lion (A) and bobcat (B). Mountain lion is the dominant species and bobcat is the subordinate. An uppercase *A* or *B* indicates that the species is present, while a lowercase *a* or *b* indicates the absence of a species. Table includes only data from 2 April 2018 to 8 July 2018. The study was conducted along the lower San Pedro River, Arizona, USA.

Model	npar	AICc	Δ AICc	Weight	Deviance
ψ A(.) ψ BA(.) EQUAL ψ Ba(.) pA(.) pB(.) rA(.) rBA(.) rBa(.)	7	195.01	0.00	0.54	169.81
ψ A(.) ψ BA(.) ψ BiBa(.) pA(.) pB(.) rA(.) rBA(.) EQUAL rBa(.)	7	195.37	0.36	0.45	170.17
ψ A(.) ψ BA(.) ψ BiBa(.) pA(.) pB(.) rA(.) rBA(.) rBa(.)	8	201.81	6.8	0.02	169.81

A: Mountain lion

B: Bobcat

ψ iA: Occupancy of species A

ψ iBA: Occupancy of species B, given species A present

ψ iBa: Occupancy of species B, given species A absent

pA: Detection probability of species A, given species B absent

pB: Detection probability of species B, given species A absent

rA: Detection probability of species A, given both species A and B present

rBA: Detection probability of species B, given both species A and B present and A detected

rBa: Detection probability of species B, given both species A and B present and A not detected