Appendix C from M. van de Pol et al., "Variation in Habitat Choice and Delayed Reproduction: Adaptive Queuing Strategies or Individual Quality Differences?"

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Sensitivity of Model Predictions to Input Parameters

Table C1

Effect of small changes in the input parameters on the evolutionarily stable strategy (x^*), the difference in age of first settlement between successful QHs and QLs ($\Delta\alpha$), and the relative number of queuers per high-quality territory compared to low-quality territories (P)

Parameter	Effect of 1% change in parameter (%)			
	x^*	$\Delta\alpha$	P[a]	CV_{year}
m_{HL}	$-.05$	$-.05$	.45	.87
m_{HN}	$-.05$	$-.16$	1.00	.83
μ_H	$-.14$	$-.41$	1.32	1.02
m_{LH}	.35	$-.34$	-2.34	.64
m_{LN}	.10	.11	$-.03$	.39
μ_L	.02	1.17	4.14	.94
F_H	$-.13$	.62	$-.83$	.48
F_L	.08	$-.92$	-3.37	.70
p[b]	$-.19$	1.45	3.31	.54
q[c]	$-.58$	0[d]	.92	.10
μ_N	0[d]	-1.01	0[d]	.81

Note: QH = individual following the QH strategy; QL = individual following the QL strategy. The effects of small changes are expressed as relative sensitivities (elasticities) and are calculated by, for example, $(\partial x^*/\partial m_{HL})(m_{HL}/x^*)$ (Caswell 2001). For example, an increase in m_{HL} of 1% results in a decrease of 0.05% of x^*, a 0.05% smaller difference in age of first reproduction between QHs and QLs, and a 0.45% higher relative number of queuers per high-quality territory compared to low-quality territories. Here, CV_{year} represents the coefficient of variation between years of the parameters over period 1 (1984–1994) and is a measure of the temporal variability of parameters. See tables B1, B2 for definitions of parameters.

[a] $P = (n_{QH}/T_H)/(n_{QL}/T_L)$.
[b] $p = (F_H + m_{HN})/(F_L + m_{LN})$.
[c] $q = T_H/T_L$.
[d] Note that some parameters do not affect x^*, $\Delta\alpha$, or P at all.