

Simultaneous estimation of dispersal and survival of the gulf killifish *Fundulus grandis* from a batch-tagging experiment

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Supplement 2

Table S2. Parameter estimates and Akaike Information Criterion (AIC) values for each creek. Top ranked model is in bold (all three dispersal models received equal support for Creek 4). Uncertainty reported is \pm 1 standard deviation.

Random effect dispersal rate					Asymptotic dispersal rate				
Normal					Normal				
Location	AIC	M (1/y)	A _{max} (y)	Mean dist @ 50% disp (m)	Location	AIC	M (1/y)	A _{max} (y)	Asymptotic dist @ 50% disp (m)
Creek 1	286	3.7 \pm 0.6	1.4 \pm 0.2	31 \pm 12	Creek 1	297	3.4 \pm 0.5	1.3 \pm 0.2	18 \pm 5.6
Creek 2	Did not converge				Creek 2	257	3.2 \pm 0.6	1.3 \pm 0.2	24 \pm 4.3
Creek 3	Did not converge				Creek 3	124	1.1 \pm 1.9	3.7 \pm 6.2	16 \pm 2.9
Creek 4	179.5	6.26\pm2.41	0.69\pm0.26	7.6E+05 \pm 4.1E+09	Creek 4	180	4.6 \pm 2.3	0.9 \pm 0.5	1.1E+06 \pm 6.8E+09
Exponential					Exponential				
Location	AIC	M (1/y)	A _{max} (y)	Mean dist @ 50% disp (m)	Location	AIC	M (1/y)	A _{max} (y)	Asymptotic dist @ 50% disp (m)
Creek 1	286	3.6 \pm0.8	1.2 \pm0.3	44.9 \pm23	Creek 1	296	3.4 \pm 0.6	1.3 \pm 0.2	28 \pm 14.8
Creek 2	260	3.5 \pm 0.5	1.2 \pm 0.2	17.2 \pm 4	Creek 2	254	3.3 \pm0.6	1.3 \pm0.2	23 \pm5.9
Creek 3	124	1.3 \pm 2.1	3.2 \pm 4.9	20.7 \pm 13	Creek 3	124	1.1 \pm 1.9	3.8 \pm 6.4	15 \pm 4.5
Creek 4	180	6.3 \pm2.4	0.7 \pm0.3	2.1E+10 \pm 2.5E+14	Creek 4	180	4.6 \pm 2.3	0.9 \pm 0.5	1.7E+10 \pm 1.6E+14
Cauchy					Cauchy				
Location	AIC	M (1/y)	A _{max} (y)	Mean dist @ 50% disp (m)	Location	AIC	M (1/y)	A _{max} (y)	Asymptotic dist @ 50% disp (m)
Creek 1	286	3.7 \pm 0.7	1.2 \pm 0.2	50.8 \pm 22.8	Creek 1	297	3.4 \pm 0.6	1.3 \pm 0.2	32 \pm 12.4
Creek 2	262	3.5 \pm 0.5	1.2 \pm 0.2	20.0 \pm 4.9	Creek 2	258	3.2 \pm 0.6	1.4 \pm 0.3	25 \pm 7.7
Creek 3	124	1.3 \pm2.1	3.3 \pm5.1	25.6 \pm15.3	Creek 3	124	1.1 \pm 1.9	3.8 \pm 6.4	19 \pm 6.3
Creek 4	180	6.3 \pm2.4	0.7 \pm0.3	1.4E+06 \pm 6.7E+09	Creek 4	180	4.6 \pm 2.3	0.9 \pm 0.5	1.9E+06 \pm 8.7E+09

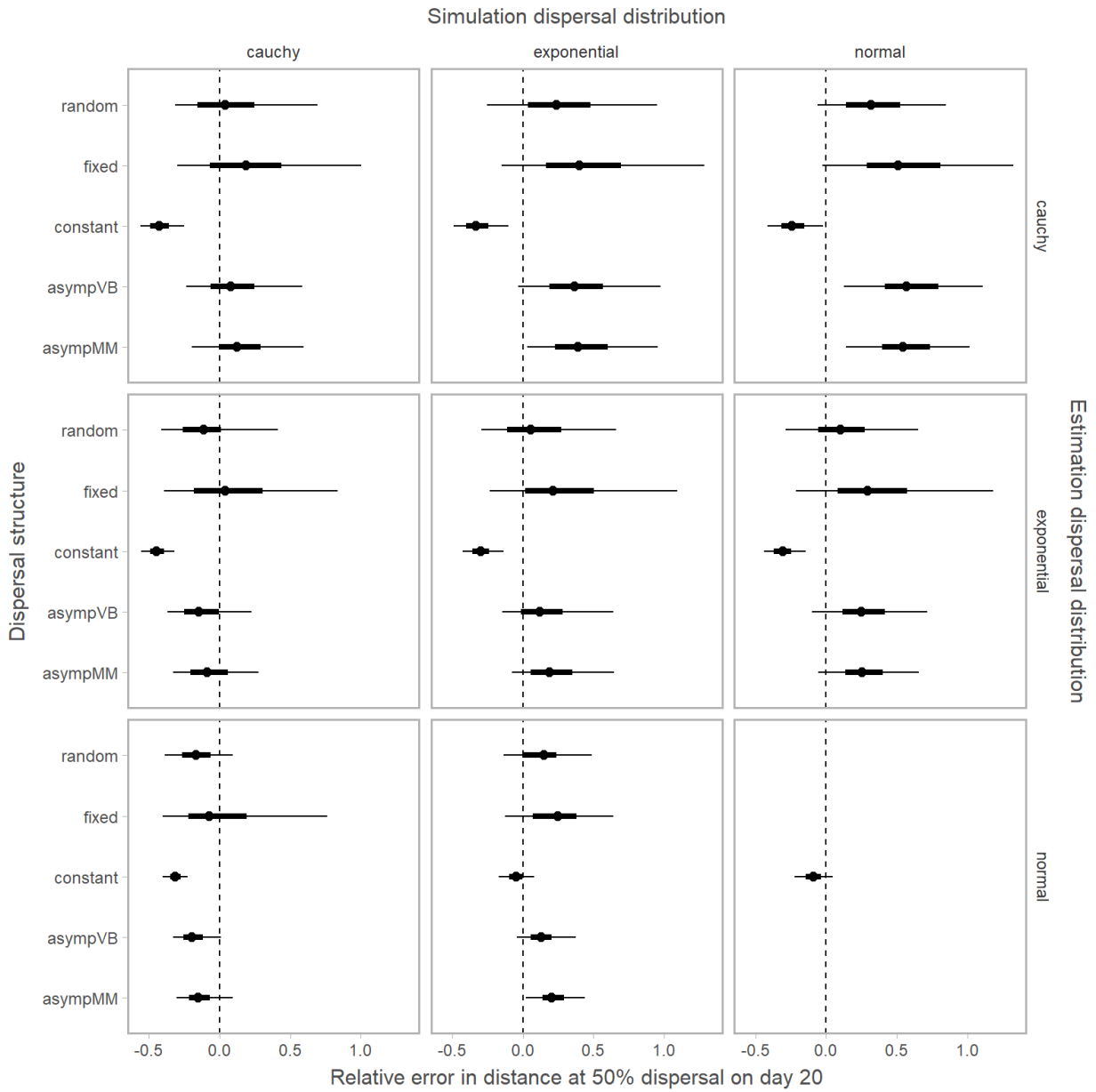


Figure S1. Relative error of estimated distance at 50% dispersal on day 20, across different dispersal distributions, and structures for estimating the dispersal parameter. Point is at the median relative error, thick bars represent middle 50% across simulations, thin bars represent middle 90%. Missing scenarios means model did not converge for any of the 500 simulations.