

**Table S1**

Fitted models for reproductive success variables, presenting all models with a  $\Delta\text{AIC} < 2$  and the first model with  $\Delta\text{AIC} > 2$ . For dependent variables: TEN = total egg number, NHT = number of hatched tadpoles, NST = number of successful tadpoles, NDE = number of desiccated eggs, NPE = number of predated eggs by fungus or bacteria. For independent variables: D = distance to the pond, A = area of the pond, DE = depth of the pond, P = mean precipitation of five preceding days, T = temperature, GSF = global site factor measured (total light incidence), SC = substrate (categorical), SS = substrate species (categorical).

Model	AIC	$\Delta\text{AIC}$	df
TEN~ GSF + SS	3,527.5	0	402
GSF + SS + DE	3,527.9	0.4	401
GSF + D + SS	3,528	0.5	401
T + GSF + SS	3,528.9	1.4	401
GSF + A + SS	3,529.3	1.8	401
P + GSF + SS	3,533.1	5.6	402
GSF + SS + SC	3,533.2	5.7	401
GSF + SC	3,536.5	9	402
GSF + A + SC	3,538.1	10.6	401
T + GSF + SC	3,538.3	10.8	401
GSF + SC + DE	3,538.3	10.8	401
P + GSF + SC	3,542.3	14.8	401
GSF + D	3,550.7	23.2	402
GSF + P	3,551.6	24.1	402
GSF + D + A	3,552.7	25.2	401

GSF + D + DE	3,552.7	25.2	401
P + GSF + D	3,553	25.5	402
GSF	3,553.1	25.6	401
P + T + GSF	3,553.2	25.7	401
P + GSF + A	3,553.2	25.7	401
P + GSF + DE	3,553.2	25.7	401
T + GSF	3,555.2	27.7	402
GSF + A	3,555.2	27.7	402
GSF + DE	3,555.2	27.7	402
T + GSF + A	3,557.2	29.7	401
GSF + A + DE	3,557.2	29.7	401
A + SS	3,557.3	29.8	402
T + SS	3,557.4	29.9	402
A + SS + DE	3,557.7	30.2	401
T + D + SS	3,557.8	30.3	401
T + SS + DE	3,557.9	30.4	401
T + A + SS	3,559.2	31.7	401
P + SS	3,562.9	35.4	402
T + SS + SC	3,564.4	36.9	401
P + T + SS	3,564.7	37.2	401
P + A + SS	3,564.7	37.2	401
P + SS + DE	3,564.7	37.2	401
P + D + SS	3,564.8	37.3	401
P + SS + SC	3,570.4	42.9	401
D + A + SC	3,571.5	44	401

T + D + SC	3,571.7	44.2	401
A + SC	3,571.8	44.3	402
T + SC	3,572.1	44.6	402
T + A + SC	3,573.8	46.3	401
A + SC + DE	3,573.8	46.3	401
T + SC + DE	3,574	46.5	401
P + SC	3,574.9	47.4	402
P + D + SC	3,576.7	49.2	401
P + T + SC	3,576.9	49.4	401
P + A + SC	3,576.9	49.4	401
P + SC + DE	3,576.9	49.4	401
P	3,581.9	54.4	401
D + P	3,583.4	55.9	402
T + P	3,583.8	56.3	402
P + A	3,583.8	56.3	402
P + DE	3,583.8	56.3	402
P + T + A	3,583.8	56.3	401
P + T + DE	3,583.8	56.3	401
P + A + DE	3,583.8	56.3	401
T + D	3,585	57.5	402
D + A	3,585.1	57.6	402
P + T + D	3,585.3	57.8	401
P + D + A	3,585.3	57.8	401
P + D + DE	3,585.3	57.8	401
T + D + DE	3,586.9	59.4	401

D + A + DE	3,586.9	59.4	401
D + SS + SC	3,586.9	59.4	401
T + D + A	3,587	59.5	401
T	3,587.7	60.2	401
A	3,587.8	60.3	401
T + DE	3,589.6	62.1	402
T + A	3,589.7	62.2	402
A + DE	3,589.7	62.2	402
T + A + DE	3,591.6	64.1	401
GSF + D + SC	3,596.5	69	401
SS + DE	3,680.2	152.7	402
D + SS + DE	3,680.5	153	401
SS	3,681	153.5	401
D + SS	3,681.1	153.6	402
SS + SC	3,688.1	160.6	402
D + SC	3,697.7	170.2	402
D + SC + DE	3,698.4	170.9	401
SC	3,698.6	171.1	401
SC + DE	3,699.1	171.6	402
D	3,710.2	182.7	401
D + DE	3,712	184.5	402
DE	3,715.2	187.7	401
T + GSF + D	*	*	*
GSF + T + DE	*	*	*
D + A + SS	*	*	*

A + SS + SC	*	*	*
DE + SS + SC	*	*	*
NHT~ GSF + SS + DE	2,205.8	0	401
A + SS + DE	2,205.8	0	401
GSF + SC + DE	2,207.4	1.6	401
A + SC + DE	2,207.4	1.6	401
T + SC + DE	2,209	3.2	401
T + SS + DE	2,210	4.2	401
T + A + DE	2,217.6	11.8	401
GSF + D + DE	2,217.9	12.1	401
GSF + A + DE	2,218.5	12.7	401
D + A + DE	2,218.6	12.8	401
GSF + T + DE	2,219.5	13.7	401
T + D + DE	2,221.3	15.5	401
D + SS + DE	2,403.9	198.1	401
P + SS + SC	12,004	9,798	401
P + GSF + SC	12,099	9,893	401
P + GSF + SS	12,145	9,939	401
P + SC	12,151	9,945	402
P + T + SC	12,153	9,947	401
P + D + SC	12,153	9,947	401
P + A + SC	12,153	9,947	401
P + SC + DE	12,153	9,947	401
P + SS	12,192	9,986	402

P + T + SS	12,194	9,988	401
P + D + SS	12,194	9,988	401
P + A + SS	12,194	9,988	401
P + SS + DE	12,194	9,988	401
GSF + P	12,471	10,265	402
P + T + GSF	12,473	10,267	401
P + GSF + D	12,473	10,267	401
P + GSF + A	12,473	10,267	401
P + GSF + DE	12,473	10,267	401
P	12,512	10,306	403
T + P	12,514	10,308	402
D + P	12,514	10,308	402
P + A	12,514	10,308	402
P + DE	12,514	10,308	402
P + T + A	12,514	10,308	401
P + T + DE	12,514	10,308	401
P + A + DE	12,514	10,308	401
P + T + D	12,516	10,310	401
P + D + A	12,516	10,310	401
P*D*DE	12,516	10,310	401
T + DE	15,198	12,992	402
A + DE	15,214	13,008	402
GSF + DE	15,215	13,009	402
GSF + SS + SC	18,117	15,911	401
GSF + A + SC	18,170	15,964	401

T + A + SS	18,274	16,068	401
T + A + SC	18,346	16,140	401
T + SS + SC	18,351	16,145	401
GSF + A + SS	18,404	16,198	401
T + GSF + SC	18,457	16,251	401
A + SC	18,534	16,328	402
D + A + SC	18,535	16,329	401
T + GSF + A	18,553	16,347	401
T + GSF + SS	18,590	16,384	401
A + SS	18,600	16,394	402
GSF + SC	18,792	16,586	402
GSF + D + SC	18,795	16,589	401
SC + DE	18,917	16,711	402
T + D + SS	18,950	16,744	401
T + D + SC	18,965	16,759	401
T + SC	18,974	16,768	402
T + D + A	18,998	16,792	401
T + A	19,012	16,806	402
T + SS	19,015	16,809	402
SS + DE	19,026	16,820	402
GSF + D + SS	19,032	16,826	401
GSF + SS	19,067	16,861	402
D + SS + SC	19,077	16,871	401
SS + SC	19,087	16,881	402
GSF + D + A	19,191	16,985	401

GSF + A	19,194	16,988	402
T + GSF	19,258	17,052	402
D + A	19,385	17,179	402
A	19,390	17,184	403
D + DE	19,633	17,427	402
T + D	19,693	17,487	402
DE	19,697	17,491	403
T	19,700	17,494	403
D + SC	19,729	17,523	402
SC	19,749	17,543	403
GSF	19,794	17,588	403
GSF + D	19,794	17,588	402
D + SS	19,922	17,716	402
SS	19,932	17,726	403
D	20,645	18,439	403
T + GSF + D	*	*	*
D + A + SS	*	*	*
D + SC + DE	*	*	*
A + SS + SC	*	*	*
DE + SS + SC	*	*	*
 NST~ GSF + SC + DE	510.35	0	401
T + GSF + SC	521.95	11.6	401
GSF + D + SC	522.1	11.75	401
T + D + SC	522.74	12.39	401

T + A + DE	588.04	77.69	401
T + D + SS	824.3	314	401
P + D + SC	1,166.6	656.3	401
P + GSF + SC	1,181.7	671.4	401
P + SC	1,197.9	687.6	402
P + T + SC	1,199.9	689.6	401
P + A + SC	1,199.9	689.6	401
P + SC + DE	1,199.9	689.6	401
P + D + SS	1,295.3	785	401
P + GSF + SS	1,302.7	792.4	401
P + SS	1,309.7	799.4	402
P + T + SS	1,311.7	801.4	401
P + A + SS	1,311.7	801.4	401
P + SS + DE	1,311.7	801.4	401
P + GSF + D	1,455.8	945.5	401
D + P	1,457	946.7	402
P + T + D	1,459	948.7	401
P + D + A	1,459	948.7	401
P + D + DE	1,459	948.7	401
GSF + P	1,565.1	1,055	402
P + T + GSF	1,567.1	1,057	401
P + GSF + A	1,567.1	1,057	401
P + GSF + DE	1,567.1	1,057	401
P	1,567.3	1,057	403
T + P	1,569.3	1,059	402

P + A	1,569.3	1,059	402
P + DE	1,569.3	1,059	402
P + T + A	1,569.3	1,059	401
P + T + DE	1,569.3	1,059	401
P + A + DE	1,569.3	1,059	401
T + A + SC	2,509.8	1,999	401
GSF + A + SC	2,663.7	2,153	401
D + A + SC	2,679.6	2,169	401
A + SC + DE	2,709.5	2,199	401
A + SC	2,713.9	2,204	402
T + GSF + A	3,454	2,944	401
T + A + SS	3,665.9	3,156	401
T + D + A	3,705.9	3,196	401
GSF + A + SS	3,740.7	3,230	401
T + A	3,862	3,352	402
GSF + D + A	3,985.8	3,475	401
GSF + A	4,103.1	3,593	402
GSF + A + DE	4,106.1	3,596	401
A + SS + DE	4,372.2	3,862	401
A + SS	4,392.3	3,882	402
D + A	4,706.1	4,196	402
D + A + DE	4,709.1	4,199	401
A	4,820.1	4,310	403
A + DE	4,821.9	4,312	402
GSF + SC	7,036.9	6,527	402

T + SC	7,262	6,752	402
GSF + SS + DE	7,393.3	6,883	401
GSF + D + DE	7,740.1	7,230	401
T + SS + DE	7,743.3	7,233	401
GSF + DE	7,813.1	7,303	402
T + GSF + SS	7,990.1	7,480	401
GSF + D + SS	8,000.9	7,491	401
T + D + DE	8,018.5	7,508	401
GSF + SS	8,043	7,533	402
T + DE	8,054.2	7,544	402
T + SS	8,270.7	7,760	402
T + GSF	8,287.9	7,778	402
GSF + D	8,308.4	7,798	402
GSF	8,344.8	7,834	403
SC + DE	8,373.4	7,863	402
T + D	8,478.1	7,968	402
T	8,516.5	8,006	403
SC	8,778.1	8,268	403
D + SC	8,780	8,270	402
SS + DE	9,176.6	8,666	402
D + SS + DE	9,179.1	8,669	401
SS	9,386.5	8,876	403
D + SS	9,386.8	8,876	402
DE	9,433.8	8,923	403
D + DE	9,435.6	8,925	402

D	9,649.4	9,139	401
T + SC + DE	18,663	18,153	401
SS + SC	*	*	*
P + SS + SC	*	*	*
T + GSF + D	*	*	*
T + SS + SC	*	*	*
GSF + T + DE	*	*	*
GSF + SS + SC	*	*	*
D + A + SS	*	*	*
D + SS + SC	*	*	*
D + SC + DE	*	*	*
A + SS + SC	*	*	*
DE + SS + SC	*	*	*
 NDE~ GSF + A + DE	2009.8	0	401
GSF + T + DE	6597.8	4,588	401
T + GSF + SS	6947	4,937	401
GSF + A + SS	7,004.7	4,995	401
GSF + D + A	7,121	5,111	401
T + GSF + SC	7,121.3	5,112	401
GSF + D + SS	7,404.9	5,395	401
T + GSF + A	7,476.3	5,467	401
GSF + SS + DE	7,661	5,651	401
GSF + D + SC	7,663	5,653	401
GSF + SC + DE	7,824.9	5,815	401

GSF + D + DE	7,869.4	5,860	401
P + GSF + SC	11,089	9,079	377
P + D + SC	11,270	9,260	377
P + GSF + SS	11,276	9,266	377
P + D + SS	11,420	9,410	377
P + T + SS	11,424	9,414	377
P + A + SS	11,424	9,414	377
P + A + SC	11,424	9,414	377
P + SS + DE	11,424	9,414	377
P + SC + DE	11,424	9,414	377
P + SS	11,427	9,417	378
P + GSF + D	11,558	9,548	377
P + T + GSF	11,568	9,558	377
P + GSF + A	11,568	9,558	377
P + GSF + DE	11,568	9,558	377
GSF + P	11,575	9,565	378
D + P	11,686	9,676	378
P + T + D	11,687	9,677	377
P + D + A	11,687	9,677	377
P + D + DE	11,687	9,677	377
P	11,693	9,683	379
T + P	11,694	9,684	378
P + A	11,694	9,684	378
P + DE	11,694	9,684	378
P + T + A	11,694	9,684	377

P + T + DE	11,694	9,684	377
P + A + DE	11,694	9,684	377
P + SS + SC	11,694	9,684	377
T + SS + DE	14,553	12,543	401
T + SC + DE	14,644	12,634	401
A + SS + DE	14,756	12,746	401
T + D + DE	14,915	12,905	401
T + A + DE	14,992	12,982	401
TDE	15,004	12,994	379
GSF + DE	15,122	13,112	378
D + A + DE	15,126	13,116	401
A + DE	15,262	13,252	378
GSF + SS	15,938	13,928	378
T + A + SS	15,999	13,989	401
T + D + SS	16,032	14,022	401
T + SS	16,043	14,033	378
A + SS	16,190	14,180	378
GSF + SC	16,409	14,399	378
D + SS + DE	16,518	14,508	401
SS + DE	16,550	14,540	378
T + GSF	16,628	14,618	378
D + A + SC	16,737	14,727	401
D + SS	16,774	14,764	378
A + SC	16,792	14,782	378
SS	16,794	14,784	379

GSF + D	16,888	14,878	378
T + D + A	16,921	14,911	401
GSF + A	16,954	14,944	378
T + A	17,017	15,007	378
T + D	17,026	15,016	378
GSF	17,056	15,046	379
T	17,124	15,114	379
D + A	17,257	15,247	378
A	17,387	15,377	379
D + DE	17,440	15,430	378
SC	17,449	15,439	379
DE	17,605	15,595	379
D	17,905	15,895	379
T + SC	*	*	*
D + SC	*	*	*
P + SC	*	*	*
SS + SC	*	*	*
SC + DE	*	*	*
P + T + SC	*	*	*
T + GSF + D	*	*	*
T + D + SC	*	*	*
T + A + SC	*	*	*
T + SS + SC	*	*	*
GSF + A + SC	*	*	*
GSF + SS + SC	*	*	*

D + A + SS	*	*	*
D + SS + SC	*	*	*
D + SC + DE	*	*	*
A + SS + SC	*	*	*
A + SC + DE	*	*	*
DE + SS + SC	*	*	*
 NPE~ GSF + P	1,388.3	0	378
T + P	1,388.4	0.1	378
P + DE	1,388.4	0.1	378
P + T + A	1,388.7	0.4	377
P + T + GSF	1,390.3	2	377
P + GSF + A	1,390.3	2	377
P + GSF + DE	1,390.3	2	377
P + T + DE	1,390.4	2.1	377
P + SS	1,392.7	4.4	378
P + SC	1,392.9	4.6	378
P + T + SS	1,394.7	6.4	377
P + A + SS	1,394.7	6.4	377
P + SS + DE	1,394.7	6.4	377
P + T + SC	1,394.9	6.6	377
P + GSF + SC	1,394.9	6.6	377
P + A + SC	1,394.9	6.6	377
P + SC + DE	1,394.9	6.6	377
P + D + SS	1,395.5	7.2	377

P + GSF + SS	1,395.6	7.3	377
P + D + SC	1,396.9	8.6	377
P + SS + SC	1,398.6	10.3	377
A	1,400.9	12.6	401
T + A	1,400.9	12.6	378
GSF + A	1,401.1	12.8	378
A + SC	1,401.3	13	378
A + DE	1,401.9	13.6	378
T + A + DE	1,402.7	14.4	401
P + A	1,402.8	14.5	378
A + SC + DE	1,402.8	14.5	401
D + A	1,402.9	14.6	378
D + A + DE	1,403	14.7	401
T + A + SC	1,403.2	14.9	401
D + A + SC	1,403.5	15.2	401
T + D + A	1,404.6	16.3	401
A + SS + DE	1,406.2	17.9	401
A + SS	1,406.4	18.1	378
T + A + SS	1,407.3	19	401
T + SC + DE	1,412.5	24.2	401
P	1,431.7	43.4	379
SS + SC	1,454.5	66.2	378
GSF + A + SS	4,176	2,788	401
GSF + A + SC	4,294	2,906	401
T + GSF + A	4,354.8	2,967	401

T + GSF + SS	4,810.8	3,423	401
GSF + D + DE	5,193.5	3,805	401
GSF + DE	5,226	3,838	378
GSF + D	5,581	4,193	378
GSF	5,606	4,218	379
T + SS + SC	12,044	10,656	401
GSF + SC	12,254	10,866	378
T + D + SC	12,344	10,956	401
T + SC	12,354	10,966	379
D + SS + SC	12,481	11,093	401
D + SC + DE	12,770	11,382	401
SC + DE	12,782	11,394	378
D + SC	12,839	11,451	378
SC	12,856	11,468	379
T + SS + DE	12,931	11,543	401
GSF + SS	13,024	11,636	378
T + D + SS	13,049	11,661	401
T + D + DE	13,103	11,715	401
T + SS	13,114	11,726	378
T + DE	13,120	11,732	379
T + GSF	13,254	11,866	378
T + D	13,331	11,943	378
T	13,353	11,965	379
D + SS + DE	13,436	12,048	401
D + SS	13,502	12,114	378

SS + DE	13,509	12,121	378
SS	13,587	12,199	379
D + DE	13,697	12,309	378
DE	13,717	12,329	379
D	13,809	12,421	379
GSF + SS + DE	3E + 08	3E + 08	401
D + P	*	*	*
P + T + D	*	*	*
P + GSF + D	*	*	*
P + D + A	*	*	*
P + D + DE	*	*	*
P + A + DE	*	*	*
T + GSF + D	*	*	*
T + GSF + SC	*	*	*
GSF + T + DE	*	*	*
GSF + D + A	*	*	*
GSF + D + SS	*	*	*
GSF + D + SC	*	*	*
GSF + A + DE	*	*	*
GSF + SS + SC	*	*	*
GSF + SC + DE	*	*	*
D + A + SS	*	*	*
A + SS + SC	*	*	*
DE + SS + SC	*	*	*

