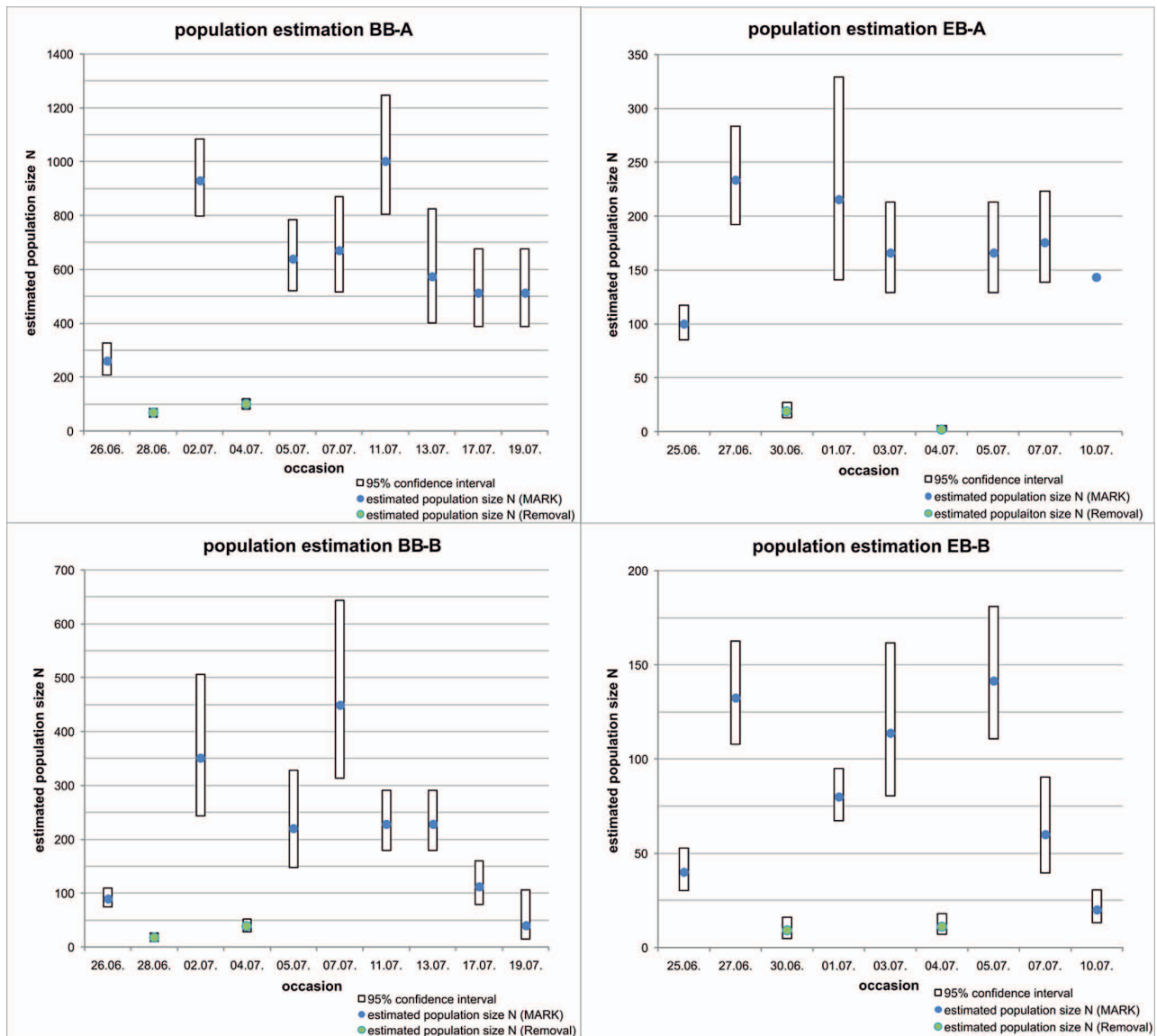


Supplementary document 1. Model selection table and estimates for survival (ϕ), capture (p) and entry to the super-population (pent) probabilities.

Creek	Model	AICc	Delta AICc	AICc Weight	Model Likelihood	No. Par.	Deviance
EB-A	Logit_Phi(t)_p(t)_pent(t)_N(id)	1590	0	0.70	1.00	16	-1223
	Logit_Phi(t)_p(t)_pent(t)_N(log)	1592	2	0.21	0.32	20	-1230
	Sin_Phi(t)_p(t)_pent(t)_N(id)	1595	4	0.08	0.11	21	-1230
	Sin_Phi(t)_p(t)_pent(t)_N(log)	1600	10	0.01	0.01	21	-1224
	Sin_Phi(t)_p(.)_pent(t)_N(id)	1624	34	0.00	0.00	13	-1183
	Logit_Phi(t)_p(.)_pent(t)_N(id)	1717	127	0.00	0.00	6	-1075
EB-B	Logit_Phi(t)_p(t)_pent(t)_N(id)	1388	0	0.46	1.00	21	-924
	Logit_Phi(t)_p(t)_pent(t)_N(log)	1388	0	0.46	1.00	21	-924
	Sin_Phi(t)_p(t)_pent(t)_N(id)	1392	4	0.06	0.13	23	-924
	Sin_Phi(t)_p(t)_pent(t)_N(log)	1394	6	0.02	0.04	24	-924
	Logit_Phi(t)_p(.)_pent(t)_N(id)	1477	89	0.00	0.00	17	-827
	Sin_Phi(t)_p(.)_pent(t)_N(id)	1487	99	0.00	0.00	13	-809
BB-A	Logit_Phi(t)_p(t)_pent(t)_N(id)	3427	0	0.83	1.00	27	-7133
	Logit_Phi(t)_p(t)_pent(t)_N(log)	3430	3	0.15	0.19	29	-7134
	Sin_Phi(t)_p(t)_pent(t)_N(id)	3436	9	0.01	0.01	32	-7134
	Sin_Phi(t)_p(t)_pent(t)_N(log)	3436	9	0.01	0.01	32	-7134
	Logit_Phi(t)_p(.)_pent(t)_N(id)	3480	53	0.00	0.00	21	-7068
	Logit_Phi(t)_p(.)_pent(t)_N(log)	3482	55	0.00	0.00	22	-7068
BB-B	Logit_Phi(t)_p(t)_pent(t)_N(log)	1508	0	0.99	1.00	23	-3019
	Sin_Phi(t)_p(t)_pent(t)_N(log)	1518	11	0.01	0.01	28	-3019
	Sin_Phi(t)_p(t)_pent(t)_N(id)	1520	13	0.00	0.00	27	-3013
	Logit_Phi(t)_p(t)_pent(t)_N(id)	1540	33	0.00	0.00	21	-2981
	Logit_Phi(t)_p(.)_pent(t)_N(log)	1607	100	0.00	0.00	18	-2907
	Sin_Phi(t)_p(.)_pent(t)_N(log)	1612	105	0.00	0.00	20	-2907

Supplementary document 2. Population size estimates for a shortened capture period (only after heavy rainfalls) and for each transect A and B in the BB and EB using CMR data of marked fire salamander larvae.



Supplementary document 3. Correlations between results gained from the two model approaches and the two count methods.

