**Supporting Table S2:** Confidence and precision of parameter estimates under the most-likely of seven tested scenarios of population demographic history of *Alnus glutinosa*.

| Demographic parameter | Prior distribution | | | Posterior distribution | | | | | Confidence in parameter estimation (mode) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | family | min | max | mean | median | mode | $Q_{0.05}$ | $Q_{0.95}$ | Bias | RMSE | 50% coverage | 95% coverage | Factor 2 |
| N1 | U | 10 | 20000 | 15500 | 15900 | 16600 | 10100 | 19500 | -0.02 | 0.30 | 0.53 | 0.95 | 0.97 |
| N2 | U | 10 | 20000 | 3530 | 2590 | 1620 | 898 | 8980 | -0.03 | 0.52 | 0.51 | 0.96 | 0.88 |
| N3 | U | 10 | 20000 | 12300 | 12300 | 12100 | 6230 | 18400 | 0.01 | 0.35 | 0.49 | 0.95 | 0.95 |
| Ns | U | 10 | 20000 | 10100 | 10100 | 8680 | 1550 | 18600 | **0.78** | **11.77** | 0.50 | 0.94 | **0.58** |
| Ne | U | 10 | 20000 | 10100 | 9640 | 7140 | 2770 | 18700 | **0.32** | **2.59** | 0.50 | 0.95 | **0.67** |
| t1 | U | 1 | 20000 | 2270 | 1730 | 709 | 181 | 6120 | -0.05 | **3.56** | 0.49 | 0.95 | **0.21** |
| t2 | U | 1 | 20000 | 5030 | 4550 | 3880 | 1850 | 9830 | -0.09 | 0.50 | 0.52 | 0.95 | 0.85 |
| t3b | U | 1 | 20000 | 10400 | 9960 | 8930 | 3700 | 18300 | **0.31** | 0.76 | 0.50 | 0.94 | 0.91 |
| t3a | U | 1 | 20000 | 12200 | 12200 | 14400 | 4930 | 19000 | **0.33** | 0.74 | 0.50 | 0.96 | 0.91 |

All simulations were run in DIYABC (Cornuet et al. 2010). Description of demographic parameters and tested population history scenarios are detailed in Figures 3 and 4. Bias: mean relative bias (distance between mode of the mode (global) and true value); RMSE: relative mean square error (precision, distance between each estimates ant the true value); 50% and 95% coverage: proportion of simulations in which the true value lies within the 50% and 95% credible interval around the estimate; Factor 2: proportion of estimated values falling within the interval between 50% and 200% of the true value. The performance of parameter estimation was assessed by simulating 1,000 pseudo-observed datasets generated using known demographic parameter values drawn from prior distributions. Comparisons of known and estimated demographic values were used to infer bias and precision of estimations (Cornuet et al. 2008).