Electronic Supplementary Material (ESI) for Environmental Science: Water Research & Technology.
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1 Supplementary Material

1.1 Pasquill stability classes

Stability class	R_y	r_y	R_z	r_z
A	0.469	0.903	0.017	1.380
B	0.306	0.885	0.072	1.021
C	0.230	0.855	0.076	0.879
D	0.219	0.764	0.140	0.727

Table S1: Coefficients for Pasquill Stability Classes

A : extremely unstable B : moderately unstable		C : unstable D : neutral	
Wind speed (u) at ground level (10m)	Insolation value (E)		
	strong $> 2000\ J/cm^2$	moderate $\in [1000; 2000]$	light $< 1000\ J/cm^2$
< 2 m/s	A	A-B	B
2-3 m/s	A-B	B	C
3-4 m/s	B	B-C	C
4-6 m/s	C	C-D	D
> 6 m/s	C	D	D

Table S2: Pasquill Stability Classes definition

1.2 Graphical representation of the distributions

In the following, we present the Prior (red) versus posterior marginal distributions of parameters and variables represented in Figure 5 of main article and not represented in the main content of the article. Dashed lines represent the median of the prior marginal distributions.

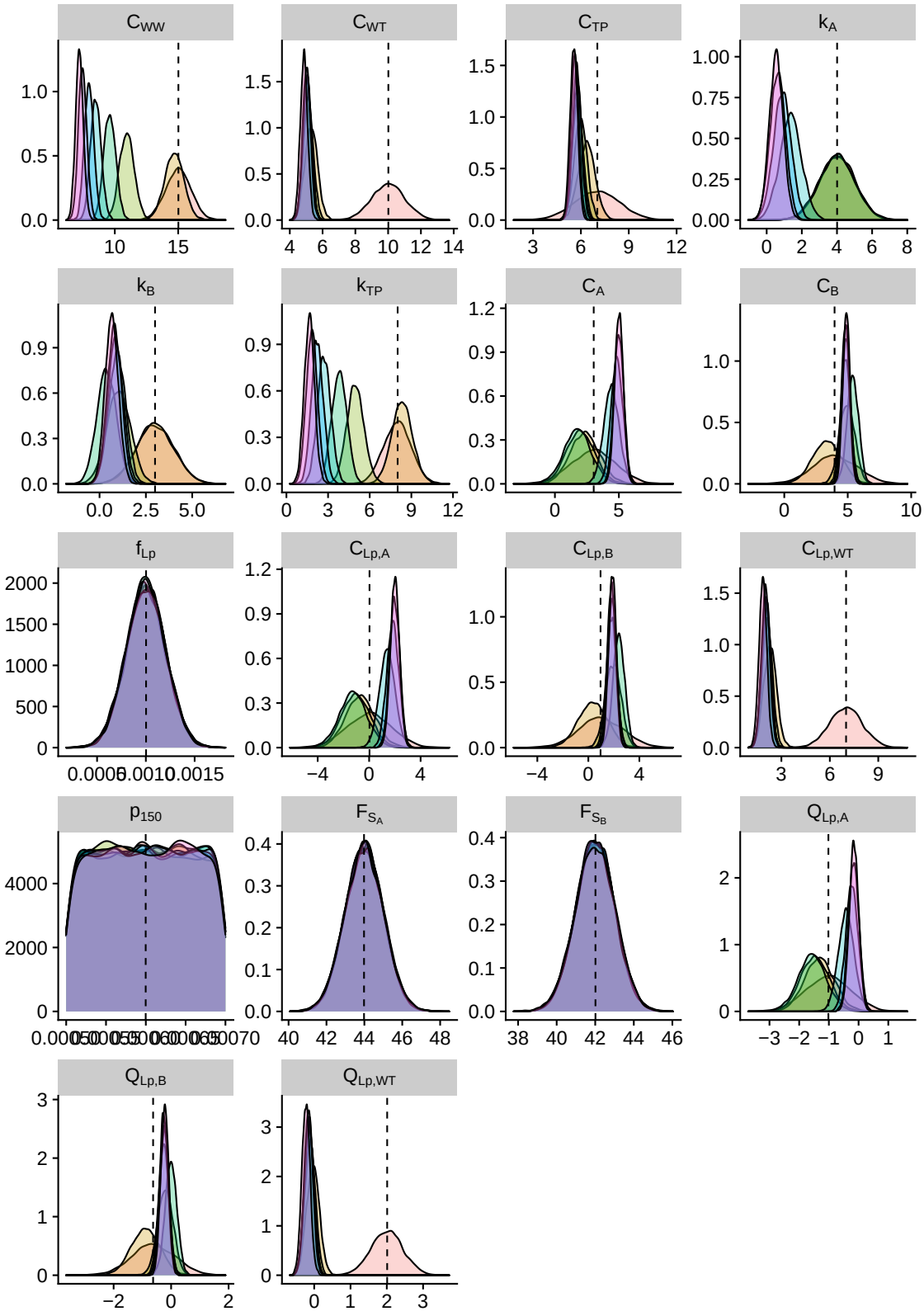

Figure S1: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in GC/CFU for R, $\log_{10}(CFU/L)$ for $C_{Lp,A}$ and $C_{Lp,GT}$, m^3/h for F_{S_A} and F_{S_B}, $\log_{10}(CFU/m^3)$ for $Q_{Lp,A}$, $Q_{Lp,B}$ and $Q_{Lp,GT}$ and unitless for f_{Lp} and p_{150}.

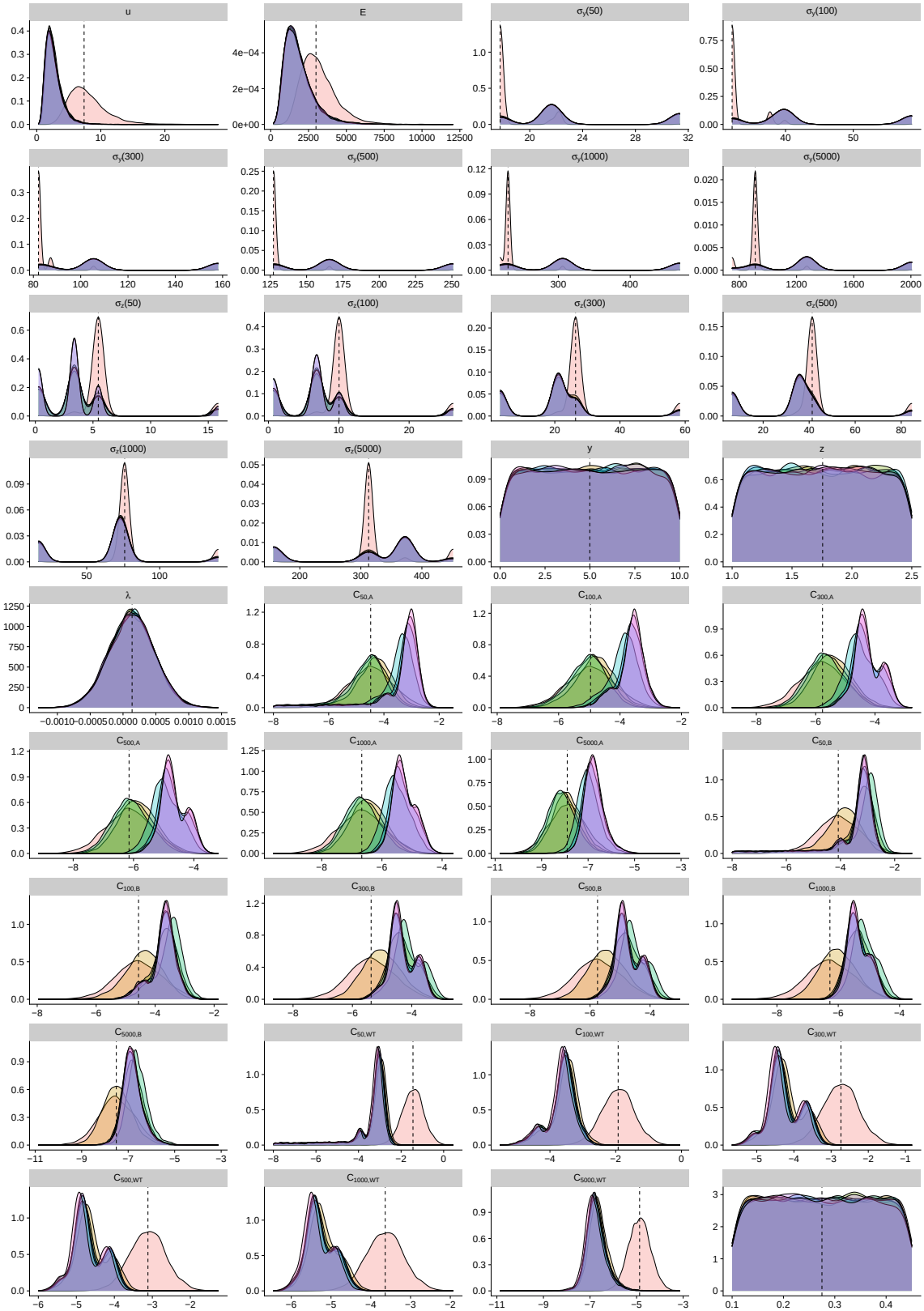

Figure S2: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in m/s for u, J/cm^2 for E, m for σ_y, σ_z, y, z and z_0 and s^{-1} for λ.

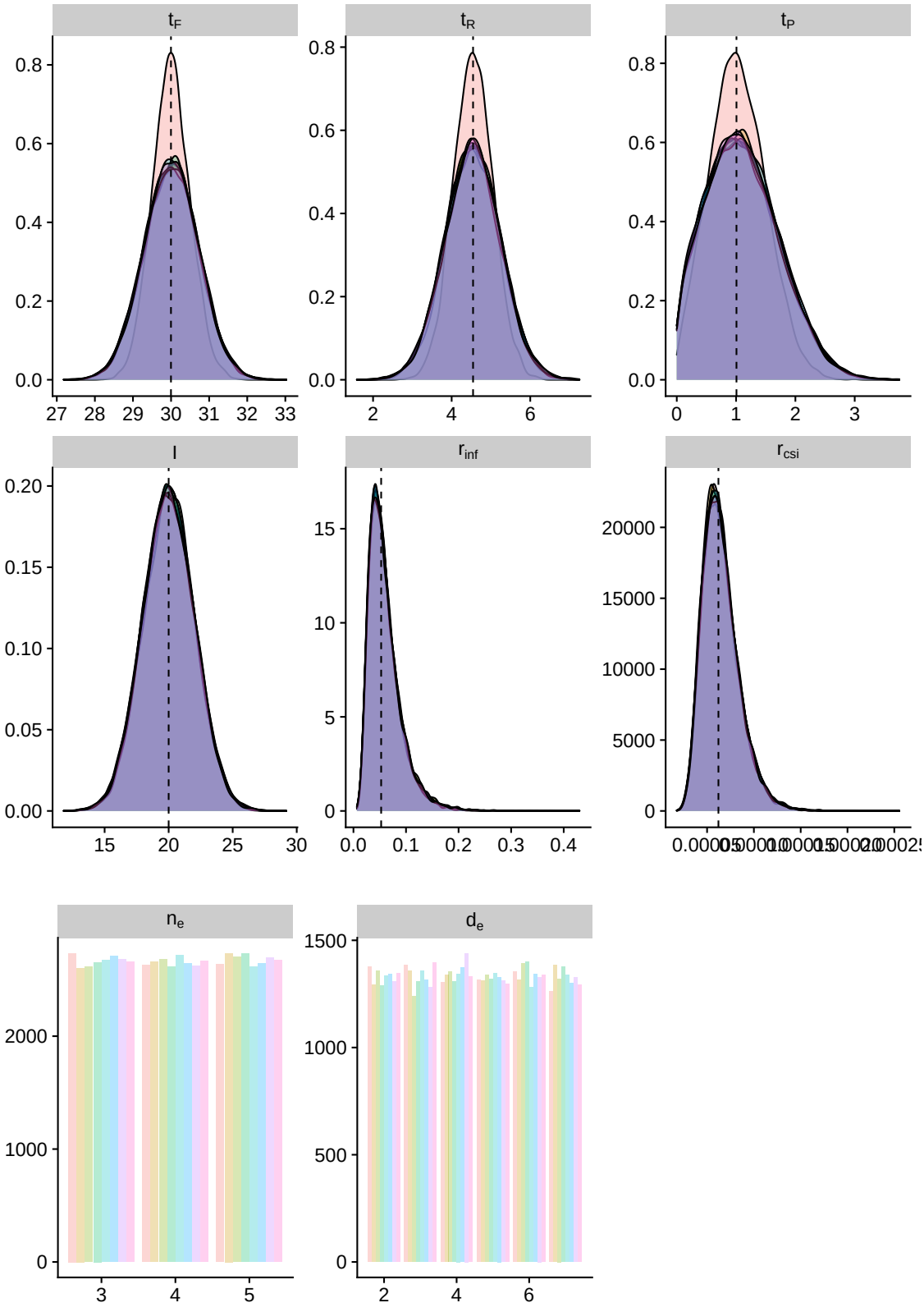

Figure S3: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are unitless for $t_{passerby}$, $t_{resident}$, t_{farmer}, r_{csi}, r_{inf} and n_e, m^3/day for I and $days$ for d_e.

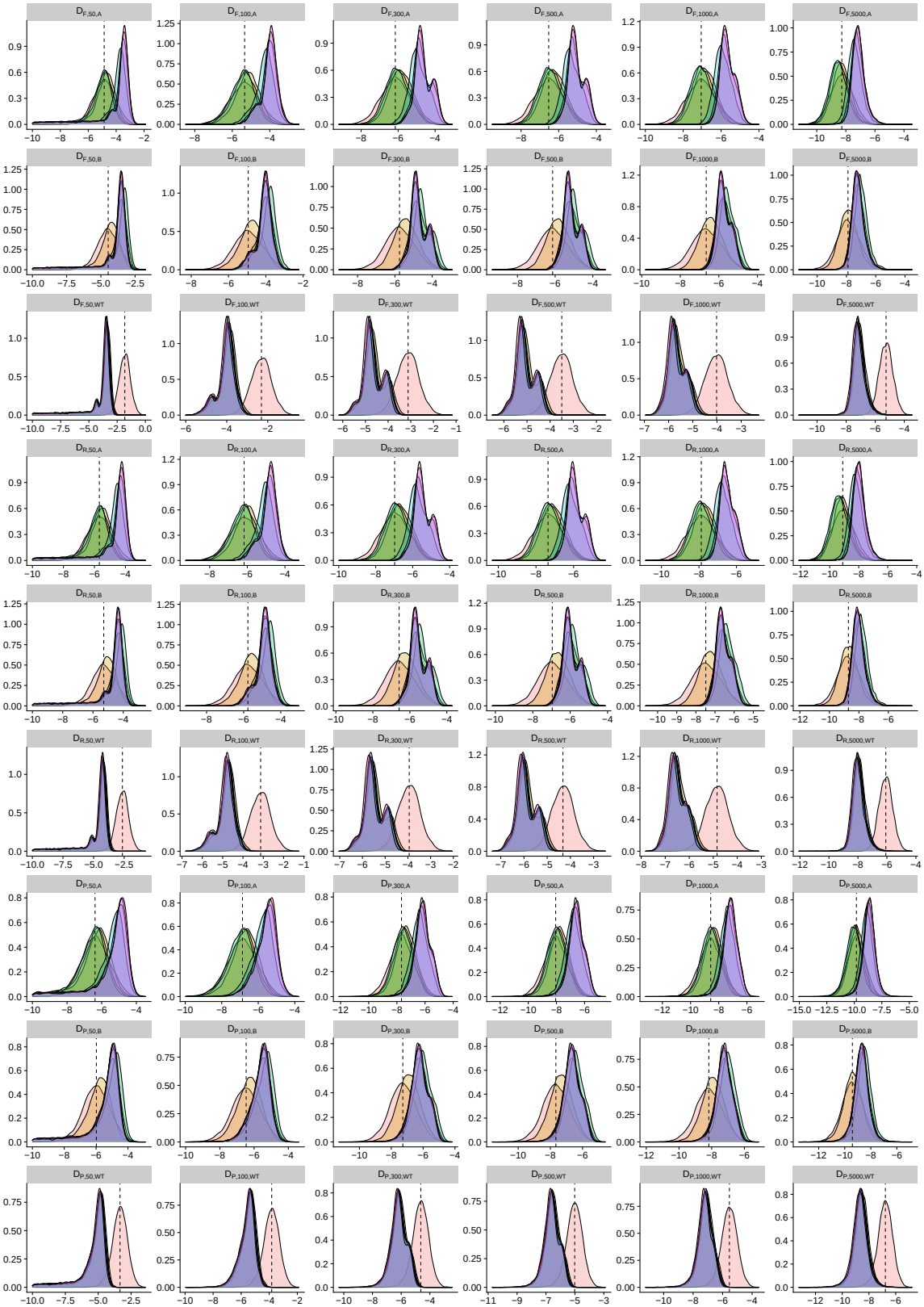

Figure S4: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in $\log_{10}(CFU/day)$.

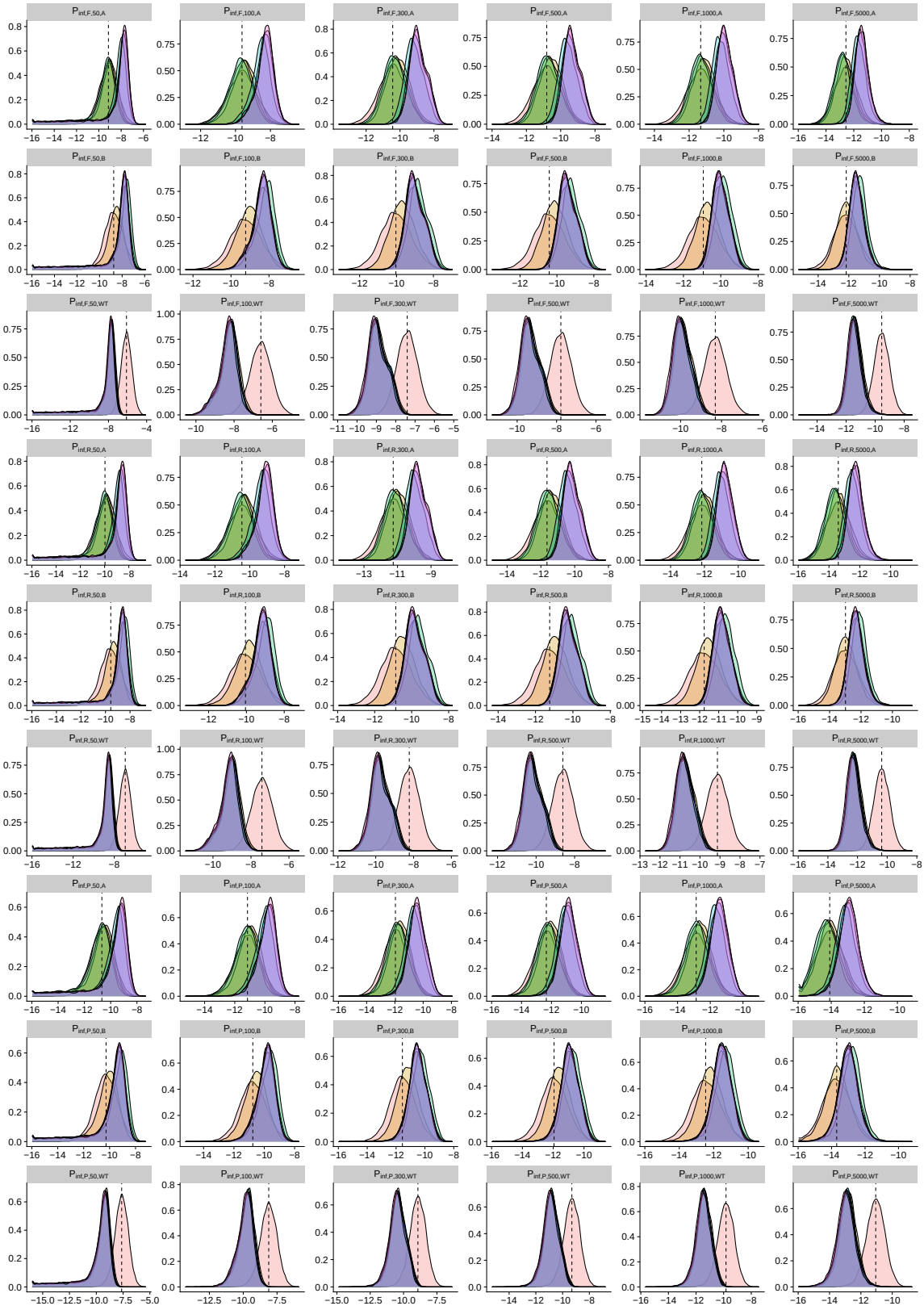

Figure S5: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in $\log_{10}$ of the instantaneous probability of subclinical severity infection for the farmers, residents and passersby.

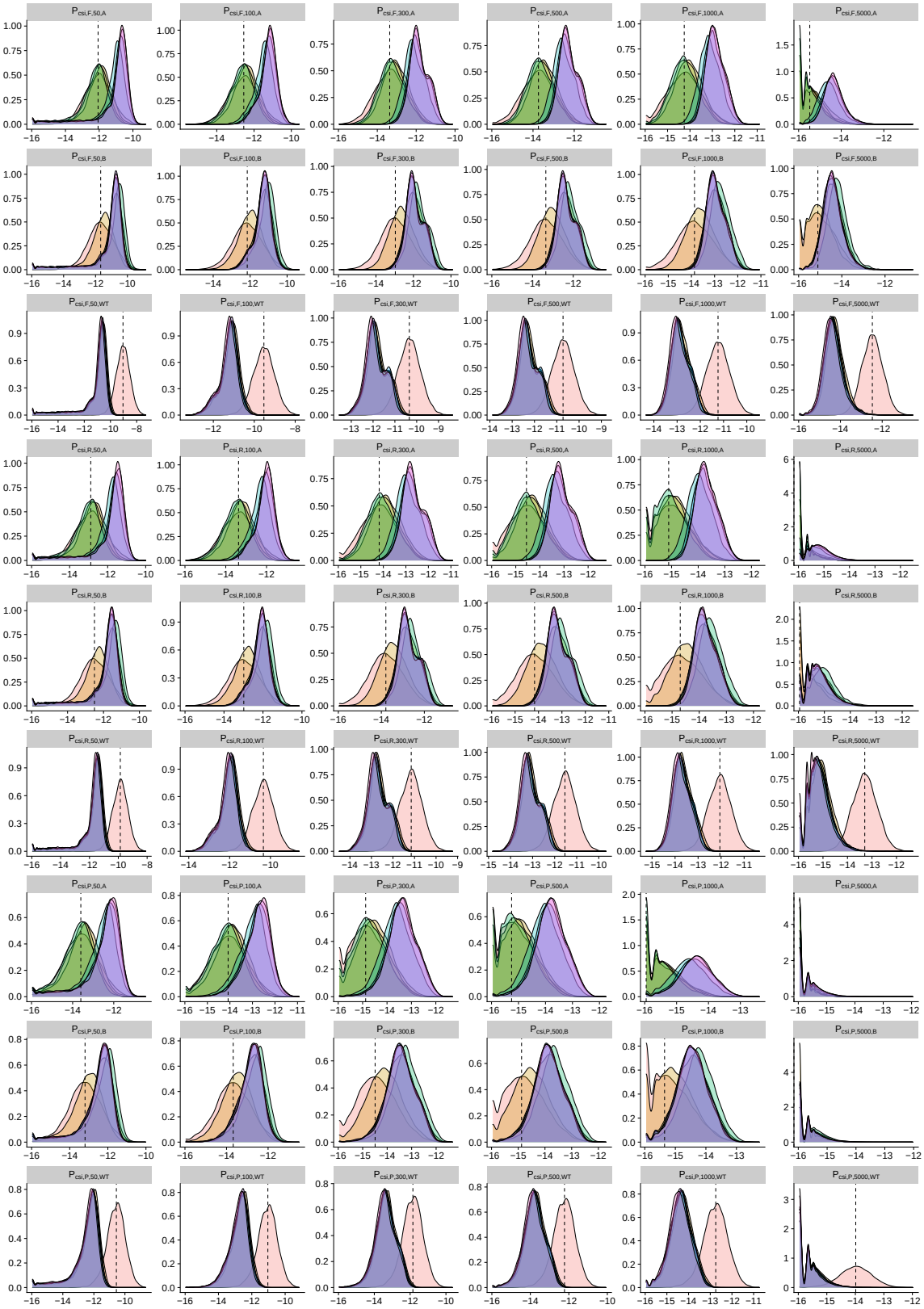

Figure S6: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in $\log_{10}$ of the instantaneous probability of clinical severity infection for the farmers, residents and passersby.

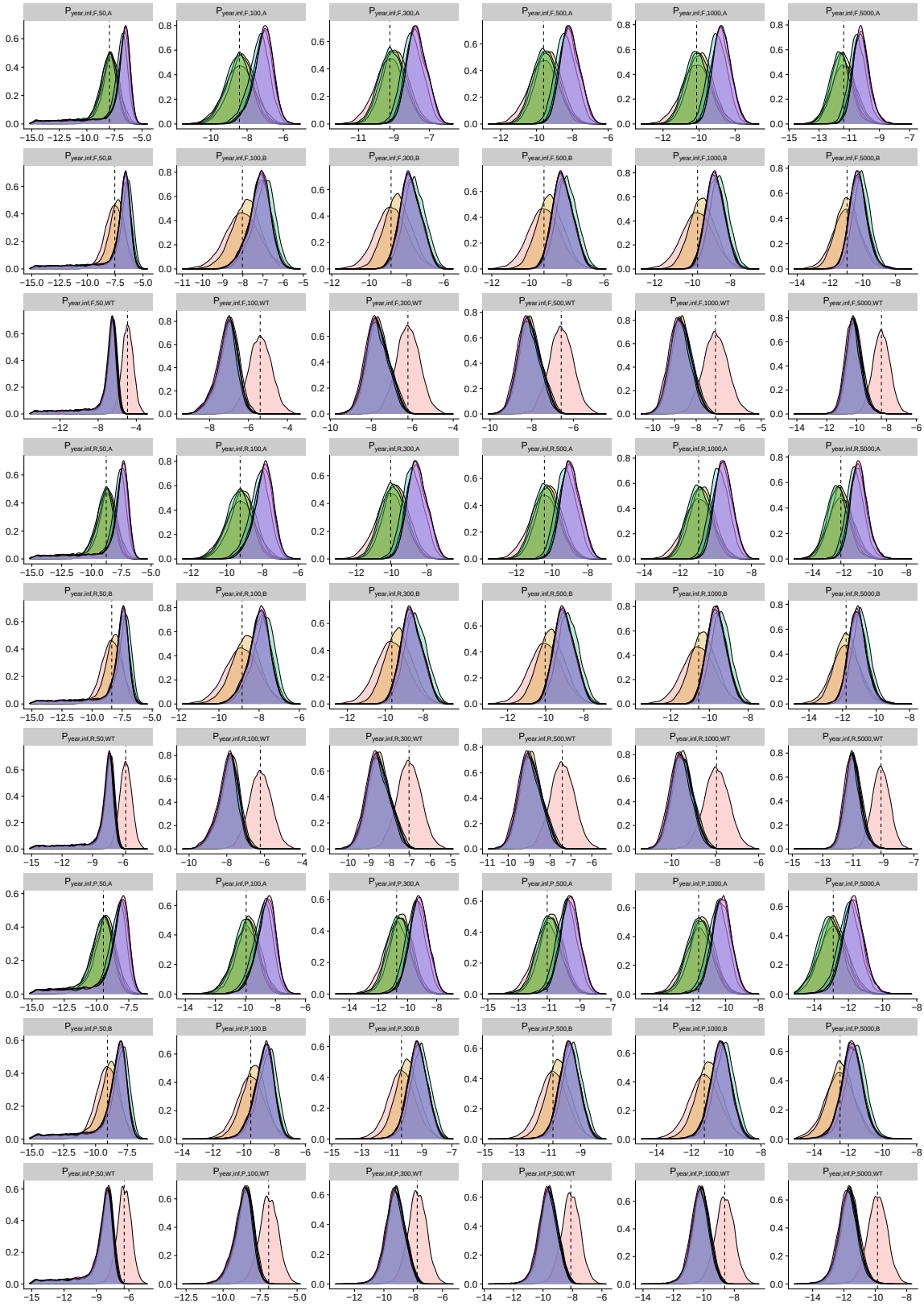

Figure S7: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in $\log_{10}$ of the yearly probability of subclinical severity infection for the farmers, residents and passersby.

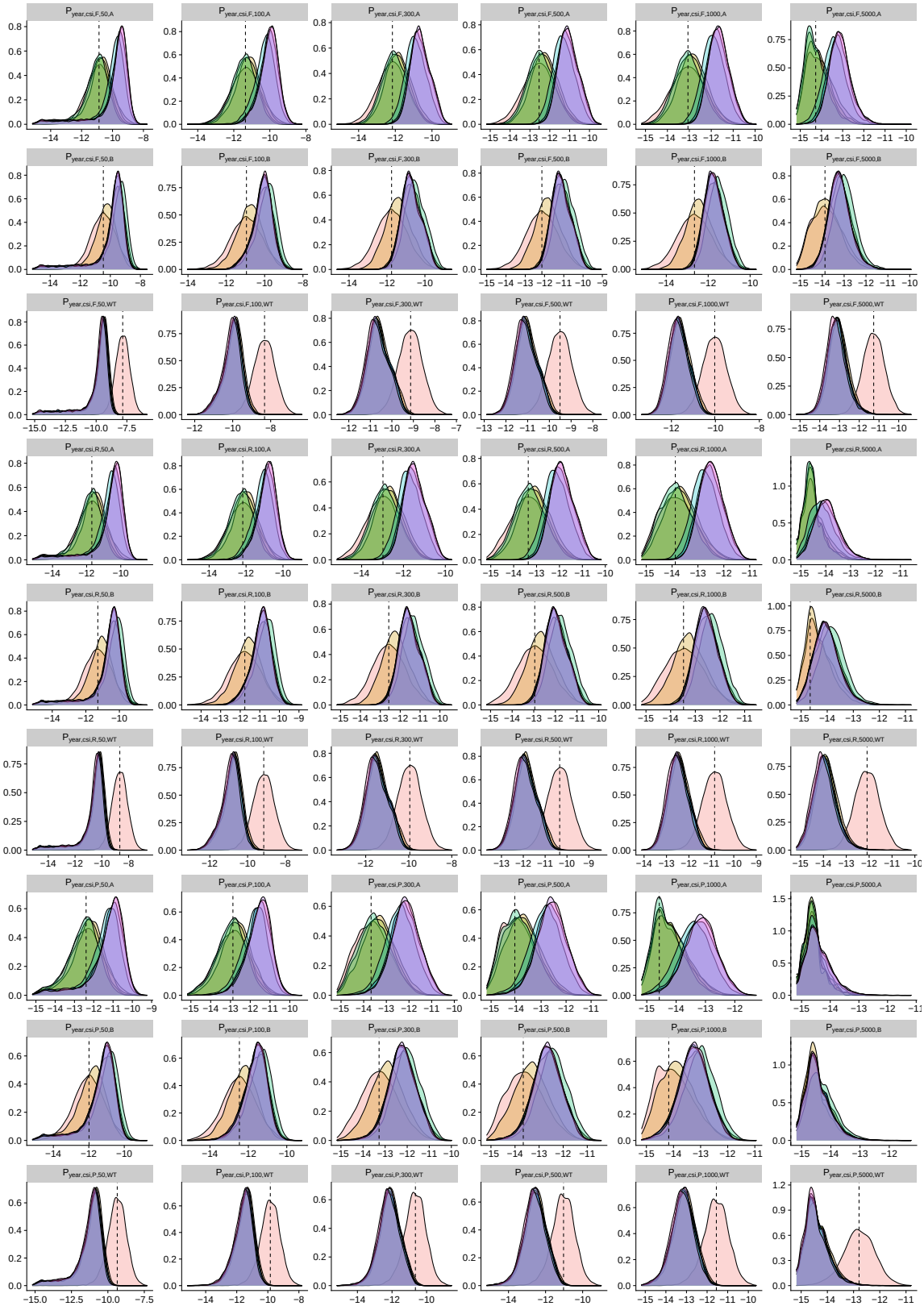

Figure S8: Prior (red) versus posterior marginal distributions of selected parameters and variables of the water contamination module of the augmented Bayesian network. Dashed lines represent the median of the prior marginal distributions. Distributions represented are in $\log_{10}$ of the yearly probability of clinical severity infection for the passersby.