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Supplementary materials

Leveraging regulatory monitoring data for quantitative microbial risk assessment of *Legionella pneumophila* in cooling towers

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Table S1. Classification of 844 cooling towers (CTs) based on the span of the 95% uncertainty interval of the arithmetic mean *L. pneumophila* concentration in bulk water. These results were obtained using the best-fit model determined using the decision algorithm shown in Fig. 1. The models are the Poisson distribution, the Poisson gamma distribution (PGA), and the Poisson lognormal distribution (PLN).

Model	Span of the 95% uncertainty interval of the arithmetic mean <i>L. pneumophila</i> concentration			Nb of CTs
	< 1.0-log	1.0–2.0-log	> 2.0-log	
Poisson (1-9 positives)	148 (26.8%)	161 (29.2%)	243 (44.0%)	552 (100%)
Poisson (≥ 10 positives)	10 (100.0%)	0 (0.0%)	0 (0.0%)	10 (100%)
PGA	38 (69.1%)	17 (30.9%)	0 (0.0%)	55 (100%)
PLN	5 (5.6%)	10 (11.1%)	75 (83.3%)	90 (100%)
Mixed Poisson ^A - PGA	95 (69.3%)	42 (30.7%)	0 (0.0%)	137 (100%)
Mixed Poisson ^A - PLN	13 (9.5%)	22 (16.1%)	102 (74.5%)	137 (100%)

^A Discrimination between the fit of the PGA and PLN is not possible because the difference in DIC between the two models is less than three points.