Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts

Supporting Information

Distribution fitting

	Log-normal	Normal	Weibull	n
Atenolol	0.0628	0.0799	0.1523	108
Carbamazepine	0.0617	0.1918	0.1024	108
Diclofenac	0.1304	0.1141	0.0901	96
Ketoprofen	0.0878	0.0942	0.0519	96
Lidocaine	0.0574	0.1549	0.0694	108
Bentazone	0.0971	0.1741	0.1381	21
Diuron	0.1354	0.2551	0.1367	18
Isoproturon	0.2144	0.2164	0.2351	8
MCPA	0.1083	0.1321	0.2176	19
Terbuthylazine	0.2583	0.4212	0.2935	38

Table 1 Kolmogorov-Smirnov goodness-of-fit test statistics T; all log-normal fits were significant at $\alpha = 0.05$ except for terbuthylazine.

The Kolmogorov-Smirnov goodness-of-fit test statistics were chosen to identify the distribution that best describes the data of measured loads. Normal, Weibull and log-normal distributions were tested as specified hypothesized distributions F*(x) against the empirical distribution of the measured loads S(x). The test statistic T is calculated by the greatest vertical distance max between F*(x) and S(x)

$$T = max\,|F^*(x) - S(x)| \tag{1}$$

and subsequently compared to the quantile obtained from the Kolmogorov-Smirnov-distribution table at a given significance level 1-α (here: $\alpha = 0.05$).