A critical review of modelling approaches for environmental risk assessment due to pesticides

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Supplementary Information

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1 Keywords as used in the bibliometric request

1.1 General modelling keywords

Model OR models OR model* calibrat* OR model* evaluat* OR model* validat* OR model* simulat* OR model* predict*OR environment* scenario* develop* OR regulator* option* OR ecolog* model* OR model* variab* OR modelling OR modeling OR simulation* model* OR deterministic model* OR mechanistic* model* OR probabilistic* model* OR uncertaint* model* OR stochastic* model* OR inference* model* OR Bayesi* inference* OR frequentist inferenc*

1.2 TKTD model keywords

allometric scaling OR QSAR OR QSPR OR read-across OR quantitative structure activity OR quantitative structure property relationship OR BCF OR BAF OR Bioaccumulation* OR GUTS OR General unified threshold* OR TK OR pharmacokinetic* OR TKTD OR TK-TD OR TKTD OR toxicokinetic* OR one-compartment kinetic* OR reverse TK OR Toxicokinetic-toxicodynamic model* OR PBTK OR Physio* biolog* based kinetic* OR PBPK OR DEB OR DEB model* OR DEB theor* OR DEBtox OR DEBkiss OR DEBtools OR dynamic energ* budget* OR energ* budget* OR energ* model* OR Energy-based model* OR Energy budget model*

1.3 Dose-Response model keywords

hormetic OR monotonous OR hormesis OR non monotonous OR U-shape OR Threshold model* OR exposure-effect model* OR NOEC OR No Observed Effect* Concentrat* OR Effect* concentrat* OR Critical effect* concentrat* OR dose response model*

1.4 Mixture keywords

(mixture* OR synergism OR antagonism OR additivity OR concentration addition* OR independant action* OR toxic* equivalent* OR TEC)

1.5 Population model keywords

life table response experiment OR LTRE OR life history trait* OR Matrix populat* model* OR Leslie model* OR Lefkovitch model* OR Usher model* OR populat* growth rate* OR State-space model* OR spatial* model* OR integrated population model* OR individual* based model* OR agent based model* OR pattern* model* OR qAOP OR quantitative adverse outcome pathway* OR Meta population model OR metapopulat* model* OR adaptive dynamic* OR recovery OR decline OR time to extinction

1.6 Landscape model keywords

(Habitat* OR sink OR element* config* OR toppings OR almass OR europ* brown hare model* OR de laender OR landscape)

1.7 Community models

foodweb OR food web OR trophic chain* OR SSD OR spec* sensitivit* distribut*

1.8 Pesticide keywords

pesticid* OR herbicid* OR insecticid* OR nematicid* OR helminticid* OR fungicid* OR pesticid* biocontrol* OR pesticid* bio control* OR semiochemical* OR semio chemical* OR natural* extract* OR plant* extract* OR natural* substance* OR plant* substance* OR pest* control* OR weed* control* OR Acaricid* OR Algicid* OR Molluscicid* OR Plant$ activator OR Plant$ growth regulator* OR Low risk* active substanc* OR Plant$ defense stimulator* OR biopesticid* OR Straight chain lepidopteran pheromon* OR neonicotinoid* OR phytosanitary product$ Ecotoxicology key words ecotoxic* OR environ* toxic* OR bioaccumulat* OR exposure* OR phytotoxic* effect* OR phytotoxic* impact* OR environ* risk* assess*OR ecological risk* assess* OR pesticide* risk* assess*

1.9 Regulation keywords

regulation* OR legislation* OR ISO norm$ OR NGO OR nat* govern* organizat* OR AFNOR OR OECD OR EFSA OR europ* food safety author* OR ANSES OR ECHA OR europ* chemic* agenc* OR ECPA OR US EPA OR environ* protec* agenc*

1.10 Excluded keywords

NOT TS=(child* OR women OR woman OR men OR man OR rat OR rats OR mice OR mouse OR pregnant)

2 Final bibliographic corpus

The corresponding .csv file can be downloaded from ***.

2.1 Initial bibliographic corpus

See Table 1.

2.2 Additional references

See Table 2.

Table 1: Additional references.

authors	year	title	doi	model type
Abi-Akar, F; Schmolke, A; Roy, C; Galic, N; Hinarejos, S;	2020	Simulating Honey Bee Large-Scale Colony Feeding Studies Using the BEEHAVE Model-Part II: Analysis of Overwintering Outcomes	http://dx.doi.org/10.1002/etc.4844	Population models
Accolla, C;Vaugeois, M; Grimm, V; Moore, Ap; Rueda-Cediel, P; Schmolke, A; Forbes, Ae;	2020	A review of key features and their implementation in unstructured, structured, and agent-based population models for ecological risk assessment.	http://doi.org/10.1002/ieam.4362	Population models
Arlos, Mj; Focks, A; Hollender, J; Stamm, C;	2020	Improving Risk Assessment by Predicting the Survival of Field Gammarids Exposed to Dynamic Pesticide Mixtures	http://doi.org/10.1021/acs.est.0c03939	DR and TKTD models
Arlos, Mj; Schurz, F; Fu, Q; Lauper, Bb; Stamm, C; Hollender, J;	2020	Coupling River Concentration Simulations with a Toxicokinetic Model Effectively Predicts the Internal Concentrations of Wastewater-Derived Micropollutants in Field Gammarids	http://doi.org/10.1021/acs.est.9b05736	DR and TKTD models
Ashauer, R; Kuhl, R; Zimmer, E; Junghans, M;	2020	Effect Modeling Quantifies the Difference Between the Toxicity of Average Pesticide Concentrations and Time-Variable Exposures from Water Quality Monitoring	http://dx.doi.org/10.1002/etc.4838	Population models
Asselman, J; Pfrender, Me; Lopez, Ja; Shaw, Jr; De Schamphelaere, Kac;	2018	Gene Coexpression Networks Drive and Predict Reproductive Effects in &ITDaphnia&IT in Response to Environmental Disturbances	http://dx.doi.org/10.1021/acs.est.7b05256	Mixture models
Awkerman, J; Raimondo, S; Schmolke, A; Galic, N; Rueda-Cediel, P; Kapo, K; Accolla, C; Vaugeois, M; Forbes, V;	2020	Guidance for Developing Amphibian Population Models for Ecological Risk Assessment	http://dx.doi.org/10.1002/ieam.4215	Population models
Azevedo-Linhares, M; Souza, Atc; Lenz, Ca; Leite, Nf; Brito, Ia; Folle, Nmt; Garcia, Je; Filipak Neto, F; Oliveiro Ribeiro, Ca;	2018	Microcystin and pyriproxyfen are toxic to early stages of development in Rhamdia quelen: An experimental and modelling study	http://dx.doi.org/10.1016/j.ecoenv.2018.09.064	Population models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Babic, S; Barisic, J; Stipanicev, D; Repec, S; Lovric, M; Malev, O; Martinovic-Weigelt, D; Coz-Rakovac, R; Klobucar, G;	2018	Assessment of river sediment toxicity: Combining empirical zebrafish embryotoxicity testing with in silico toxicity characterization	http://dx.doi.org/10.1016/j.scitotenv.2018.06.124	DR and TKTD models
Baillard, V; Sulmon, C; Bittebiere, Ak; Mony, C; Couee, I; Gouesbet, G; Delignette-Muller, Ml; Devin, S; Billoir, E;	2020	Effect of interspecific competition on species sensitivity distribution models: Analysis of plant responses to chemical stress	http://dx.doi.org/10.1016/j.ecoenv.2020.110722	Multi-species models
Banks, Je; Ackleh, As; Veprauskas, A; Stark, Jd;	2019	The trouble with surrogates in environmental risk assessment: a daphniid case study	http://dx.doi.org/10.1007/s10646-018-1999-0	Population models
Bart, S; Jager ,T; Robinson, A; Lahive, E; Spurgeon, Dj, Ashauer R;	2021	Predicting Mixture Effects over Time with Toxicokinetic-Toxicodynamic Models (GUTS): Assumptions, Experimental Testing, and Predictive Power	http://doi.org/10.1021/acs.est.0c05282	Mixture models
Bart, S; Pelosi, C; Nelieu, S; Lamy, I; Pery, Arr;	2020	An energy-based model to analyze growth data of earthworms exposed to two fungicides	http://dx.doi.org/10.1007/s11356-019-06985-z	DR and TKTD models
Bartell, Sm; Nair, Sk; Grant, S; Brain, Ra;	2018	Modeling the effects of thiamethoxam on Midwestern farm ponds and emergent wetlands	http://dx.doi.org/10.1002/etc.4010	Landscape models
Baudrot, V; Walker, E; Lang, A; Stefanescu, C; Rey, Jf; Soubeyrand, S; Messean, A;	2021	When the average hides the risk of Bt-corn pollen on non-target Lepidoptera: Application to Aglais io in Catalonia.	http://doi.org/10.1016/j.ecoenv.2020.111215	Landscape models
Bauer, Fj; Thomas, Pc; Fouchard, Sy; Neunlist, Sjm;	2018	A new classification algorithm based on mechanisms of action.	https://doi.org/10.1016/j.comtox.2017.11.001	QSARs
Bauer, Fj; Thomas, Pc; Fouchard, Sy; Neunlist, Sjm;	2017	High-accuracy prediction of mechanisms of action using structural alerts.	https://doi.org/10.1016/j.comtox.2018.06.004	QSARs

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Bayen, S; Estrada, Es; Zhang, H; Lee, Wk; Juhel, G; Smedes, F; Kelly, Bc;	2019	Partitioning and Bioaccumulation of Legacy and Emerging Hydrophobic Organic Chemicals in Mangrove Ecosystems	http://dx.doi.org/10.1021/acs.est.8b06122	Population models
Becher, Ma; Grimm, V; Thorbek, P; Horn, J; Kennedy, Pj; Osborne, Jl;	2014	BEEHAVE: A systems model of honeybee colony dynamics and foraging to explore multifactorial causes of colony failure	https://doi.org/10.1111/1365-2664.12222	Population models
Becher, Ma; Twiston-Davies, G; Penny, Td; Goulson, D; Rotheray, El; Osborne, Jl;	2018	Bumble-BEEHAVE: A systems model for exploring multifactorial causes of bumblebee decline at individual, colony, population and community level	http://dx.doi.org/10.1111/1365-2664.13165	Multi-species models
Belden, Jb; Brain, Ra;	2018	Incorporating the joint toxicity of co-applied pesticides into the ecological risk assessment process	http://dx.doi.org/10.1002/ieam.1957	Mixture models
Belz, Rg; Duke, So;	2018	Predicting hormesis in mixtures of herbicidal compounds - where are we and how far can we go?	http://dx.doi.org/10.5073/jka.2018.458.023	Mixture models
Berntssen, Mhg; Hoogenveen, R; Rosenlund, G; Garlito, B; Zeilmaker, Mj;	2020	Do background levels of the pesticide pirimiphosmethyl in plant-based aquafeeds affect food safety of farmed Atlantic salmon?	http://dx.doi.org/10.1080/19440049.2020.1829717	DR and TKTD models
Boone, Ks; Di Toro, Dm;	2019	Target site model: Application of the polyparameter target lipid model to predict aquatic organism acute toxicity for various modes of action	http://dx.doi.org/10.1002/etc.4278	QSARs
Booton, Rd; Yamaguchi, R; Marshall, Jar; Childs, Dz; Iwasa, Y;	2018	Interactions between immunotoxicants and parasite stress: Implications for host health	http://dx.doi.org/10.1016/j.jtbi.2018.02.018	Population models
Bourque, J; Desforges, Jp; Levin, M; Atwood, Tc; Sonne, C; Dietz, R; Jensen, Th; Curry, E; Mckinney, Ma;	2020	Climate-associated drivers of plasma cytokines and contaminant concentrations in Beaufort Sea polar bears (Ursus maritimus)	http://dx.doi.org/10.1016/j.scitotenv.2020.140978	DR and TKTD models
Brain, Ra; Teed, Rs; Bang, J; Thorbek, P; Perine, J; Peranginangin, N; Kim, M; Valenti, T; Chen, Wl; Breton, Rl; Rodney, Si; Moore, Drj;	2015	Risk Assessment Considerations With Regard to the Potential Impacts of Pesticides on Endangered Species	http://dx.doi.org/10.1002/ieam.1572	Population models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Brain, Ra; Teed, Rs; Bang, J; Thorbek, P; Perine, J; Pranginangin, N; Kim, M; Valenti, T; Chen, Wl; Breton, Rl; Rodney, Si; Moore, Drj;	2009	TOXICITY OF A DISSOLVED PYRETHROID MIXTURE TO HYALELLA AZTECA AT ENVIRONMENTALLY RELEVANT CONCENTRATIONS	http://dx.doi.org/10.1897/08-374.1	Mixture models
Breitwieser, M; Vigneau, E; Viricel, A; Becquet, V; Lacroix, C; Erb, M; Huet, V; Churlaud, C; Le Floch, S; Guillot, B; Graber, M; Thomas, H;	2018	What is the relationship between the bioaccumulation of chemical contaminants in the variegated scallop Mimachlamys varia and its health status? A study carried out on the French Atlantic coast using the Path ComDim model	http://dx.doi.org/10.1016/j.scitotenv.2018.05.317	DR and TKTD models
Brock, Tcm; Arena, M; Cedergreen, N; Charles, S; Duquesne, S; Ippolito, A; Klein, M; Reed, M; Teodorovic, I; Van Den Brink, Pj; Focks, A;	2020	Application of General Unified Threshold Models of Survival Models for Regulatory Aquatic Pesticide Risk Assessment Illustrated with An Example for the Insecticide Chlorpyrifos	http://dx.doi.org/10.1002/ieam.4327	DR and TKTD models
Brock, Tcm; Arts, Ghp; Maltby, L; Van Den Brink, Pj;	2006	Aquatic Risks of Pesticides, Ecological Protection Goals, and Common Aims in European Union Legislation	http://dx.doi.org/10.1002/ieam.5630020402	Methods
Brock, Tcm; Belgers, Jdm; Boerwinkel, Mc; Jollie, L; Kraak, Mhs; Papo, Mj; Vonk, Ja; Roessink, I;	2018	Toxicity of sediment-bound lufenuron to benthic arthropods in laboratory bioassays	http://dx.doi.org/10.1016/j.aquatox.2018.03.005	DR and TKTD models
Brock, Tcm; Crum, Sjh; Deneer, Jw; Heimbach, F; Roijackers, Rmm; Sinkeldam, Ja;	2004	Comparing aquatic risk assessment methods for the photosynthesis-inhibiting herbicides metribuzin and metamitron	http://dx.doi.org/10.1016/j.envpol.2003.12.022	Multi-species models
Brock, Tcm; Romao, J; Yin, X; Osman, R; Roessink, I;	2020	Sediment toxicity of the fungicide fludioxonil to benthic macroinvertebrates-evaluation of the tiered effect assessment procedure	http://dx.doi.org/10.1016/j.ecoenv.2020.110504	Population models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Broerse, M; Van Gestel, Cam;	2010	Mixture effects of nickel and chlorpyrifos on Folsomia candida (Collembola) explained from development of toxicity in time	http://dx.doi.org/10.1016/j.chemosphere.2010.02.032	Mixture models
Brox, S; Seiwert, B; Kuster, E; Reemtsma, T;	2016	Toxicokinetics of Polar Chemicals in Zebrafish Embryo (Danio rerio): Influence of Physicochemical Properties and of Biological Processes	http://dx.doi.org/10.1021/acs.est.6b04325	DR and TKTD models
Bryden, J; Gill, Rj; Mitton, Raa; Raine, Ne; Jansen, Vaa;	2013	Chronic sublethal stress causes bee colony failure	http://dx.doi.org/10.1111/ele.12188	Population models
Cacciatore, Lc; Guerrero, Nrv; Cochon, Ac;	2018	Toxicokinetic and toxicodynamic studies of carbaryl alone or in binary mixtures with azinphos methyl in the freshwater gastropod Planorbarius corneus	http://dx.doi.org/10.1016/j.aquatox.2018.04.005	Mixture models
Campero, M; De Block, M; Ollevier, F; Stoks, R;	2008	Correcting the short-term effect of food deprivation in a damselfly: mechanisms and costs	http://dx.doi.org/10.1111/j.1365-2656.2007.01308.x	DR and TKTD models
Carafa, R; Marinov, D; Dueri, S; Wollgast, J; Giordani, G; Viaroli, P; Zaldivar, Jm;	2009	A bioaccumulation model for herbicides in Ulva rigida and Tapes philippinarum in Sacca di Goro lagoon (Northern Adriatic)	http://dx.doi.org/10.1016/j.chemosphere.2008.10.058	DR and TKTD models
Cardoso, Dfn; Bastos, Ac; Soares, Amvm; Loureiro, S;	2014	Short-term exposure to carbaryl and UV radiation increases the reproduction output of the collembolan Folsomia candida	http://dx.doi.org/10.1007/s11368-014-0892-6	Mixture models
Carnesecchi, E; Svendsen, C; Lasagni, S; Grech, A; Quignot, N; Amzal, B; Toma, C; Tosi, S; Rortais, A; Cortinas-Abrahantes, J; Capri, E; Kramer, N; Benfenati, E; Spurgeon, D; Guillot, G; Dorne, Jlcm;	2019	Investigating combined toxicity of binary mixtures in bees: Meta-analysis of laboratory tests, modelling, mechanistic basis and implications for risk assessment	http://dx.doi.org/10.1016/j.envint.2019.105256	Mixture models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Carnesecchi, E; Toma, C; Roncaglioni, A; Kramer, N; Benfenati, E; Dorne, Jlcm;	2020	Integrating QSAR models predicting acute contact toxicity and mode of action pro filing in honey bees (A. mellifera): Data curation using open source databases, performance testing and validation	http://dx.doi.org/10.1016/j.scitotenv.2020.139243	QSARs
Carpenter, Dj; Mathiassen, Sk; Boutin, C; Strandberg, B; Casey, Cs; Damgaard, C;	2020	Effects of Herbicides on Flowering	http://dx.doi.org/10.1002/etc.4712	DR and TKTD models
Casalegno, M; Sello, G; Benfenati, E;	2006	Top-priority fragment QSAR approach in predicting pesticide aquatic toxicity	http://dx.doi.org/10.1021/tx0601814	QSARs
Cedergreen, N;	2014	Quantifying Synergy: A Systematic Review of Mixture Toxicity Studies within Environmental Toxicology	http://dx.doi.org/10.1371/journal.pone.0096580	Mixture models
Cedergreen, N; Rasmussen, Jj;	2017	Low Dose Effects of Pesticides in the Aquatic Environment	http://dx.doi.org/10.1021/bk-2017-1249.ch012	Mixture models
Cedergreen, N; Spliid, Nh; Streibig, Jc;	2004	Species-specific sensitivity of aquatic macrophytes towards two herbicide	http://dx.doi.org/10.1016/j.ecoenv.2004.04.002	Multi-species models
Cederlund, H;	2017	Effects of spray drift of glyphosate on nontarget terrestrial plantsA critical review	http://dx.doi.org/10.1002/etc.3925	Multi-species models
Chandler, Gt; Cary, Tl; Bejarano, Ac; Pender, J; Ferry, Jl;	2004	Population consequences of fipronil and degradates to copepods at field concentrations: An integration of life cycle testing with Leslie matrix population Modeling	http://dx.doi.org/10.1021/es049654o	Population models
Charles, S; Wu, D; Ducrot ,V;	2021	How to account for the uncertainty from standard toxicity tests in species sensitivity distributions: an example in non-target plants	http://doi.org/10.1371/journal.pone.0245071	DR and TKTD models
Chaudhuri, A; Johnson, R; Rakshit, K; Bednarova, A; Lackey, K; Sen Chakraborty, S; Krishnan, N;	2020	Exposure to Spectracide (R) causes behavioral deficits in Drosophila melanogaster: Insights from locomotor analysis and molecular modeling	http://dx.doi.org/10.1016/j.chemosphere.2020.126037	QSARs

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Chaumet, B; Morin, S; Boutry, S; Mazzella, N;	2019	Diuron sorption isotherms in freshwater biofilms	http://dx.doi.org/10.1016/j.scitotenv.2018.09.286	DR and TKTD models
Chaumet, B; Morin, S; Hourtane, O; Artigas, J; Delest, B; Eon, M; Mazzella, N;	2019	Flow conditions influence diuron toxicokinetics and toxicodynamics in freshwater biofilms	http://dx.doi.org/10.1016/j.scitotenv.2018.10.265	DR and TKTD models
Chen, C; Wang, Yh; Zhao, Xp; Qian, Yz; Wang, Q;	2014	Combined toxicity of butachlor, atrazine and lambda-cyhalothrin on the earthworm Eisenia fetida by combination index (CI)-isobologram method	http://dx.doi.org/10.1016/j.chemosphere.2014.04.070	Mixture models
Chen, C; Wang, Yh; Zhao, Xp; Wang, Q; Qian, Yz;	2014	Comparative and combined acute toxicity of butachlor, imidacloprid and chlorpyrifos on earthworm, Eisenia fetida	http://dx.doi.org/10.1016/j.chemosphere.2013.12.023	Mixture models
Chen, C; Wang, Yh; Zhao, Xp; Wang, Q; Qian, Yz;	2014	The combined toxicity assessment of carp (Cyprinus carpio) acetylcholinesterase activity by binary mixtures of chlorpyrifos and four other insecticides	http://dx.doi.org/10.1007/s10646-013-1165-7	Mixture models
Chen, Jj; Chen, Yj; Teuschler, Lk; Rice, G; Hamernik, K; Protzel, A; Kodell, Rl;	2003	Cumulative risk assessment for quantitative response data	http://dx.doi.org/10.1002/env.587	Mixture models
Chen, L; Li, Sb; Zhou, Ym; Zhou, Xx; Jiang, H; Liu, Xg; Yuan, Sk;	2020	Risk assessment for pesticide mixtures on aquatic ecosystems in China: a proposed framework	http://dx.doi.org/10.1002/ps.5529	Methods
Chen, L; Song, Yf; Tang, Bh; Song, Xy; Yang, Hr; Li, By; Zhao, Y; Huang, Ct; Han, X; Wang, Sy; Li, Zl;	2015	Aquatic risk assessment of a novel strobilurin fungicide: A microcosm study compared with the species sensitivity distribution approach	http://dx.doi.org/10.1016/j.ecoenv.2015.06.027	Multi-species models
Chen, Yq; Yu, Wj; Jin, L; Wang, Q; Yin, J; Lin, Jw; Li, Jy;	2019	Stabilization of hydrophobic organic contaminants in sediments by natural zeolites: bioavailability-based assessment of efficacy using equilibrium passive sampling	http://dx.doi.org/10.1007/s11368-019-02381-9	DR and TKTD models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Chevre, N; Brazzale, Ar; Becker-Van Slooten, K; Behra, R; Tarradellas, J; Guettinger, H;	2005	Modeling the concentration-response function of the herbicide dinoseb on Daphnia magna (survival time, reproduction) and Pseudokirchneriella subcapitata (growth rate)	http://dx.doi.org/10.1016/j.ecoenv.2004.08.001	Multi-species models
Ciffroy, P;	2020	A comprehensive probabilistic approach for integrating and separating natural variability and parametric uncertainty in the prediction of distribution coefficient of radionuclides in rivers	http://doi.org/10.1016/j.jenvrad.2020.106371	Methods
Clemow, Yh; Manning, Ge; Breton, Rl; Winchell, Mf; Padilla, L; Rodney, Si; Hanzas, Jp; Estes, Tl; Budreski, K; Toth, Bn; Hill, Kl; Priest, Cd; Teed, Rs; Knopper, Ld; Moore, Drj; Stone, Ct; Whatling, P;	2018	A Refined Ecological Risk Assessment for California Red-legged Frog, Delta Smelt, and California Tiger Salamander Exposed to Malathion	http://dx.doi.org/10.1002/ieam.2002	Multi-species models
Como, F; Carnesecchi, E; Volani, S; Dorne, Jlcm; Richardson, J; Bassan, A; Pavan, M; Benfenati, E;	2017	Predicting acute contact toxicity of pesticides in honeybees (Apis mellifera) through a k-nearest neighbor model	http://dx.doi.org/10.1016/j.chemosphere.2016.09.092	QSARs
Conder, Jm; Sorensen, Mt; Leitman, P; Martello, Lb; Wenning, Rj;	2009	Avian ecological risk potential in an urbanized estuary: Lower Hackensack River, New Jersey, USA	http://dx.doi.org/10.1016/j.scitotenv.2008.09.043	Landscape models
Conolly, Rb; Ankley, Gt; Cheng, Wy; Mayo, Ml; Miller, Dh; Perkins, Ej; Villeneuve, Dl; Watanabe, Kh;	2017	Quantitative Adverse Outcome Pathways and Their Application to Predictive Toxicology	http://doi.org/10.1021/acs.est.6b06230	Population models
Coors, A; De Meester, L;	2008	Synergistic, antagonistic and additive effects of multiple stressors: predation threat, parasitism and pesticide exposure in Daphnia magna	http://dx.doi.org/10.1111/j.1365-2664.2008.01566.x	Mixture models

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Table 1 – *Continued from previous page*

authors	year	title	doi	model type
Copin, Pj; Chevre, N;	2018	Modelling the effects of PSII inhibitor pulse exposure on two algae in co-culture	http://dx.doi.org/10.1007/s10646-017-1881-5	DR and TKTD models
Copin, Pj; Chevre, N;	2015	Modelling the effects of pulse exposure of several PSII inhibitors on two algae	http://dx.doi.org/10.1016/j.chemosphere.2015.05.035	DR and TKTD models
Copin, Pj; Coutu, S; Chevre, N;	2015	Modelling the effect of fluctuating herbicide concentrations on algae growth	http://dx.doi.org/10.1016/j.ecoenv.2014.12.010	DR and TKTD models
Copin, Pj; Perronet, L; Chevre, N;	2016	Modelling the effect of exposing algae to pulses of S-metolachlor: How to include a delay to the onset of the effect and in the recovery	http://dx.doi.org/10.1016/j.scitotenv.2015.08.154	Mixture models
Crall, Jd; De Bivort, Bl; Dey, B; Versypt, Anf;	2019	Social Buffering of Pesticides in Bumblebees: Agent-Based Modeling of the Effects of Colony Size and Neonicotinoid Exposure on Behavior Within Nests	http://dx.doi.org/10.3389/fevo.2019.00051	Population models
Crenna, E; Jolliet, O; Collina, E; Sala, S; Fantke, P;	2020	Characterizing honey bee exposure and effects from pesticides for chemical prioritization and life cycle assessment	http://dx.doi.org/10.1016/j.envint.2020.105642	DR and TKTD models
Cresswell, Je;	2017	A demographic approach to evaluating the impact of stressors on bumble bee colonies	http://dx.doi.org/10.1111/een.12376	Population models
Crocker, Dr;	2005	Estimating the exposure of birds and mammals to pesticides in long-term risk assessments	http://dx.doi.org/10.1007/s10646-005-0031-7	Multi-species models
Crocker, Dr; Lawrence, Aj;	2018	Estimating the potential effects of pesticide seed treatments on the reproductive success of arable birds	http://dx.doi.org/10.1016/j.ecoenv.2017.08.035	Population models
Croft, S; Brown, M; Wilkins, S; Hart, A; Smith, Gc;	2018	Evaluating European Food Safety Authority Protection Goals for Honeybees (Apis mellifera): What Do They Mean for Pollination?	http://dx.doi.org/10.1002/ieam.4078	Population models
Cruzeiro, C; Rocha, E; Pardal, Ma; Rocha, Mj;	2016	Environmental assessment of pesticides in the Mondego River Estuary (Portugal)	http://dx.doi.org/10.1016/j.marpolbul.2015.12.013	Mixture models

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authors	year	title	doi	model type
Cuevas, N; Martins, M; Costa, Pm;	2018	Risk assessment of pesticides in estuaries: a review addressing the persistence of an old problem in complex environments	http://dx.doi.org/10.1007/s10646-018-1910-z	Methods
Daam, Ma; Silva, E; Leitao, S; Trindade, Mj; Cerejeira, Mj;	2010	Does the actual standard of 0.1 mu g/L overestimate or underestimate the risk of plant protection products to groundwater ecosystems?	http://dx.doi.org/10.1016/j.ecoenv.2009.12.029	Multi-species models
Dalhoff, K; Gottardi, M; Rinnan, A; Rasmussen, Jj; Cedergreen, N;	2018	Seasonal sensitivity of Gammarus pulex towards the pyrethroid cypermethrin	http://dx.doi.org/10.1016/j.chemosphere.2018.02.153	DR and TKTD models
Dalhoff, K; Hansen, Amb; Rasmussen, Jj; Focks, A; Strobel, Bw; Cedergreen, N;	2020	Linking Morphology, Toxicokinetic, and Toxicodynamic Traits of Aquatic Invertebrates to Pyrethroid Sensitivity	http://dx.doi.org/10.1021/acs.est.0c00189	DR and TKTD models
Dalkvist, T; Sibly, Rm; Topping, Cj;	2013	Landscape structure mediates the effects of a stressor on field vole populations	http://dx.doi.org/10.1007/s10980-013-9932-7	Landscape models
Dalkvist, T; Topping, Cj; Forbes, Ve;	2009	Population-level impacts of pesticide-induced chronic effects on individuals depend more on ecology than toxicology	http://dx.doi.org/10.1016/j.ecoenv.2008.10.002	Population models
Damgaard, C; Mathiassen, Sk; Kudsk, P;	2008	Modeling effects of herbicide drift on the competitive interactions between weeds	http://dx.doi.org/10.1897/07-267.1	Multi-species models
Davidson, C;	2004	Declining downwind: Amphibian population declines in california and historical pesticide use	http://dx.doi.org/10.1890/03-5224	Mixture models
De Castro-Catala, N; Munoz, I; Riera, Jl; Ford, At;	2017	Evidence of low dose effects of the antidepressant fluoxetine and the fungicide prochloraz on the behavior of the keystone freshwater invertebrate Gammarus pulex	http://dx.doi.org/10.1016/j.envpol.2017.07.088	Mixture models
De Coninck, Dim; De Schamphelaere, Kac; Jansen, M; De Meester, L; Janssen, Cr;	2013	Interactive effects of a bacterial parasite and the insecticide carbaryl to life-history and physiology of two Daphnia magna clories differing in carbaryl sensitivity	http://dx.doi.org/10.1016/j.aquatox.2013.01.008	Mixture models
De Hoop, L; De Troch, M; Hendriks, Aj; De Laender, F;	2013	MODELING TOXIC STRESS BY ATRAZINE IN A MARINE CONSUMER-RESOURCE SYSTEM	http://dx.doi.org/10.1002/etc.2160	Multi-species models

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authors	year	title	doi	model type
De Laender, F; Soetaert, K; Middelburg, Jj;	2010	Inferring chemical effects on carbon flows in aquatic food webs: Methodology and case study	http://dx.doi.org/10.1016/j.envpol.2009.11.009	Multi-species models
De Laender, F; Van Den Brink, Pj; Janssen, Cr;	2011	Functional redundancy and food web functioning in linuron-exposed ecosystems	http://dx.doi.org/10.1016/j.envpol.2011.04.048	Multi-species models
De Perre, C; Murphy, Tm; Lydy, Mj;	2017	Mixture TOXICITY OF PHOSTEBUPIRIM AND CYFLUTHRIN: SPECIES-SPECIFIC RESPONSES	http://dx.doi.org/10.1002/etc.3724	Mixture models
De Zwart, D;	2005	Ecological Effects of Pesticide Use in The Netherlands: Modeled and Observed Effects in the Field Ditch	http://dx.doi.org/10.1897/IEAM_2004-015.1	Multi-species models
Devillers, J;	2001	A general QSAR model for predicting the acute toxicity of pesticides to Lepomis macrochirus	http://dx.doi.org/10.1080/10629360108035361	QSARs
Devillers, J; Flatin, J;	2000	A general QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss	http://dx.doi.org/10.1080/10629360008033227	QSARs
Di Marzio, Wd; Cifoni, M; Saenz, Me; Galassi, Dmp; Di Lorenzo, T;	2018	The ecotoxicity of binary mixtures of Imazamox and ionized ammonia on freshwater copepods: Implications for environmental risk assessment in groundwater bodies	http://dx.doi.org/10.1016/j.ecoenv.2017.11.031	QSARs
Diepens, Nj; Beltman, Whj; Koelmans, Aa; Van Den Brink, Pj; Baveco, Jm;	2016	Dynamics and recovery of a sediment-exposed Chironomus riparius population: A modelling approach	http://dx.doi.org/10.1016/j.envpol.2016.03.051	Population models
Dittrich, R; Giessing, B; Benito, Mm; Russ, A; Wolf, C; Foudoulakis, M; Norman, S;	2019	Multiyear monitoring of bird communities in chlorpyrifos-treated orchards in Spain and the United Kingdom: Spatial and temporal trends in species composition, abundance, and site fidelity	http://dx.doi.org/10.1002/etc.4317	DR and TKTD models
Dohmen, Gp; Preuss, Tg; Hamer, M; Galic, N; Strauss, T; Van Den Brink, Pj; De Laender, F; Bopp, S;	2016	Population-Level Effects and Recovery of Aquatic Invertebrates after Multiple Applications of an Insecticide	http://dx.doi.org/10.1002/ieam.1676	DR and TKTD models

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authors	year	title	doi	model type
Donatelli, M; Magarey, Rd; Bregaglio, S; Willocquet, L; Whish, Jpm; Savary, S;	2017	Modelling the impacts of pests and diseases on agricultural systems	http://dx.doi.org/10.1016/j.agsy.2017.01.019	Population models
Duchet, C; Coutellec, Ma; Franquet, E; Lagneau, C; Lagadic, L;	2010	Population-level effects of spinosad and Bacillus thuringiensis israelensis in Daphnia pulex and Daphnia magna: comparison of laboratory and field microcosm exposure conditions	http://dx.doi.org/10.1007/s10646-010-0507-y	Population models
Ducrot, V; Pery, Arr; Lagadic, L;	2010	Modelling effects of diquat under realistic exposure patterns in genetically differentiated populations of the gastropod Lymnaea stagnalis	http://dx.doi.org/10.1098/rstb.2010.0047	DR and TKTD models
Dupraz, V; Menard, D; Akcha, F; Budzinski, H; Stachowski-Haberkorn, S;	2019	Toxicity of binary mixtures of pesticides to the marine microalgae Tisochrysis lutea and Skeletonema marinoi: Substance interactions and physiological impacts	http://dx.doi.org/10.1016/j.aquatox.2019.03.015	Mixture models
El-Amrani, S; Pena-Abaurrea, M; Sanz-Landaluze, J; Ramos, L; Guinea, J; Camara, C;	2012	Bioconcentration of pesticides in Zebrafish eleutheroembryos (Danio rerio)	http://dx.doi.org/10.1016/j.scitotenv.2012.02.065	DR and TKTD models
Elliott, Je; Miller, Mj; Wilson, Lk;	2005	Assessing breeding potential of peregrine falcons based on chlorinated hydrocarbon concentrations in prey	http://dx.doi.org/10.1016/j.envpol.2004.08.002	DR and TKTD models
Engelman, Ca; Grant, We; Mora, Ma; Woodin, M;	2012	Modelling effects of chemical exposure on birds wintering in agricultural landscapes: The western burrowing owl (Athene cunicularia hypugaea) as a case study	http://dx.doi.org/10.1016/j.ecolmodel.2011.10.017	Landscape models
Englert, D; Zubrod, Jp; Pietz, S; Stefani, S; Krauss, M; Schulz, R; Bundschuh, M;	2017	Relative importance of dietary uptake and waterborne exposure for a leaf-shredding amphipod exposed to thiacloprid-contaminated leaves	http://dx.doi.org/10.1038/s41598-017-16452-9	Mixture models
Etterson, M; Garber, K; Odenkirchen, E;	2017	Mechanistic modeling of insecticide risks to breeding birds in North American agroecosystems	http://dx.doi.org/10.1371/journal.pone.0176998	Population models
Etterson, Ma; Bennett, Rs;	2013	Quantifying the Effects of Pesticide Exposure on Annual Reproductive Success of Birds	http://dx.doi.org/10.1002/ieam.1450	Population models

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authors	year	title	doi	model type
Evans, Ad; Nipper, M;	2007	Toxicity of phenanthrene and lindane mixtures to marine invertebrates	http://dx.doi.org/10.1002/tox.20279	Mixture models
Faggiano, L; De Zwart, D; Garcia-Berthou, E; Lek, S; Gevrey, M;	2010	Patterning ecological risk of pesticide contamination at the river basin scale	http://dx.doi.org/10.1016/j.scitotenv.2010.02.002	Mixture models
Fargnoli, M; Lombardi, M; Puri, D; Casorri, L; Masciarelli, E; Mandic-Rajcevic, S; Colosio, C;	2019	The Safe Use of Pesticides: A Risk Assessment Procedure for the Enhancement of Occupational Health and Safety (OHS) Management	http://dx.doi.org/10.3390/ijerph16030310	Methods
Felten V, Toumi H, Masfaraud Jf, Billoir E, Camara Bi, Férard Jf	2020	Microplastics enhance Daphnia magna sensitivity to the pyrethroid insecticide deltamethrin: Effects on life history traits	http://doi.org/10.1016/j.scitotenv.2020.136567	DR and TKTD models
Filimonova, V; Nys, C; De Schamphelaere, Kac; Goncalves, F; Marques, Jc; Goncalves, Amm; De Troch, M;	2018	Ecotoxicological and biochemical mixture effects of an herbicide and a metal at the marine primary producer diatom Thalassiosira weissflogii and the primary consumer copepod Acartia tonsa	http://dx.doi.org/10.1007/s11356-018-2302-x	Mixture models
Finizio, A; Di Nica, V; Rizzi, C; Villa, S;	2020	A quantitative structure-activity relationships approach to predict the toxicity of narcotic compounds to aquatic communities	http://dx.doi.org/10.1016/j.ecoenv.2019.110068	QSARs
Firdaus, Mam; Agatz, A; Hodson, Me; Al-Khazrajy, Osa; Boxall, Aba;	2018	Fate, Uptake, and Distribution of Nanoencapsulated Pesticides in Soil-Earthworm Systems and Implications for Environmental Risk Assessment	http://dx.doi.org/10.1002/etc.4094	DR and TKTD models
Focks, A; Belgers, D; Boerwinkel, Mc; Buijse, L; Roessink, I; Van Den Brink, Pj;	2018	Calibration and validation of toxicokinetic-toxicodynamic models for three neonicotinoids and some aquatic macroinvertebrates	http://dx.doi.org/10.1007/s10646-018-1940-6	DR and TKTD models
Focks, A; Luttik, R; Zorn, M; Brock, Tcm; Roex, E; Van Der Linden, T; Van Den Brink, Pj;	2014	A SIMULATION STUDY ON EFFECTS OF EXPOSURE TO A COMBINATION OF PESTICIDES USED IN AN ORCHARD AND TUBER CROP ON THE RECOVERY TIME OF A VULNERABLE AQUATIC INVERTEBRATE	http://dx.doi.org/10.1002/etc.2502	Population models

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authors	year	title	doi	model type
Focks, A; Ter Horst, M; Van Den Berg, E; Baveco, H; Van Den Brink, Pj;	2014	Integrating chemical fate and population-level effect models for pesticides at landscape scale: New options for risk assessment	http://dx.doi.org/10.1016/j.ecolmodel.2013.09.023	Population models
Forbes Ve, Salice Cj, Birnir B, Bruins Rjf, Calow P, Ducrot V, Galic N, Garber K, Harvey Bc, Jager H, Kanarek A, Pastorok R, Railsback Sf, Rebarber R, Thorbeck P	2017	A framework for predicting impacts on ecosystem services from (sub)organismal responses to chemicals	https://doi.org/10.1002/etc.3720	Population models
Forbes, Ve; Agatz, A; Ashauer, R; Butt, Kr; Capowiez, Y; Duquesne, S; Ernst, G; Focks, A; Gergs, A; Hodson, Me; Holmstrup, M; Johnston, As; Meli, M; Nickisch, D; Pieper, S; Rakel, Kj; Reed, M; Roembke, J; Schafer, Rb; Thorbek, P; Spurgeon, Dj; Van Den Berg, E; Van Gestel, Ca; Zorn, Mi; Roeben, V;	2020	Mechanistic Effect Modeling of Earthworms in the Context of Pesticide Risk Assessment: Synthesis of the FORESEE Workshop	http://dx.doi.org/10.1002/ieam.4338	Population models
Forbes, Ve; Brain, R; Edwards, D; Galic, N; Hall, T; Honegger, J; Meyer, C; Moore, Drj; Nacci, D; Pastorok, R; Preuss, Tg; Railsback, Sf; Salice, C; Sibly, Rm; Tenhumberg, B; Thorbek, P; Wang, M;	2015	Assessing Pesticide Risks to Threatened and Endangered Species Using Population Models: Findings and Recommendations from a CropLife America Science Forum	http://dx.doi.org/10.1002/ieam.1628	Population models
Forbes, Ve; Galic, N; Schmolke, A; Vavra, J; Pastorok, R; Thorbek, P;	2016	Assessing the risks of pesticides to threatened and endangered species using population modeling: A critical review and recommendations for future work	http://dx.doi.org/10.1002/etc.3440	Population models

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authors	year	title	doi	model type
Fraser, AJ; Burkow, IC; Wolkers, H; Mackay, D;	2002	Modeling biomagnification and metabolism of contaminants in harp seals of the Barents Sea	http://dx.doi.org/10.1002/etc.5620210108	DR and TKTD models
Furuhama, A; Hayashi, Ti; Yamamoto, H;	2019	Development of QSAAR and QAAR models for predicting fish early-life stage toxicity with a focus on industrial chemicals	http://dx.doi.org/10.1080/1062936X.2019.1669707	QSARs
Gabsi, F; Solga, A; Bruns, E; Leake, C; Preuss, Tg;	2019	Short-term to long-term extrapolation of lethal effects of an herbicide on the marine mysid shrimp Americamysis Bahia by use of the General Unified Threshold Model of Survival (GUTS)	http://dx.doi.org/10.1002/ieam.4092	DR and TKTD models
Galic, N; Ashauer, R; Baveco, H; Nyman, Am; Barsi, A; Thorbek, P; Bruns, E; Van Den Brink, Pj;	2014	MODELING THE CONTRIBUTION OF TOXICOKINETIC AND TOXICODYNAMIC PROCESSES TO THE RECOVERY OF GAMMARUS PULEX POPULATIONS AFTER EXPOSURE TO PESTICIDES	http://dx.doi.org/10.1002/etc.2481	Population models
Galic, N; Salice, Cj; Birnir, B; Bruins, Rjf; Ducrot, V; Jager, Hi; Kanarek, A; Pastorok, R; Rebarber, R; Thorbek, P; Forbes, Ve;	2019	Predicting impacts of chemicals from organisms to ecosystem service delivery: A case study of insecticide impacts on a freshwater lake	http://dx.doi.org/10.1016/j.scitotenv.2019.05.187	Multi-species models
Galimberti, F; Moretto, A; Papa, E;	2020	Application of chemometric methods and QSAR models to support pesticide risk assessment starting from ecotoxicological datasets	http://dx.doi.org/10.1016/j.watres.2020.115583	QSARs
Gao, Yx; Chen, Jh; Wang, Hl; Liu, C; Lv, Xt; Li, Jz; Guo, By;	2013	Enantiomerization and Enantioselective Bioaccumulation of Benalaxyl in Tenebrio molitor Larvae from Wheat Bran	http://dx.doi.org/10.1021/jf4020125	DR and TKTD models
Garcia-Gomez, C; Babin, M; Garcia, S; Almendros, P; Perez, Ra; Fernandez, Md;	2019	Joint effects of zinc oxide nanoparticles and chlorpyrifos on the reproduction and cellular stress responses of the earthworm Eisenia andrei	http://dx.doi.org/10.1016/j.scitotenv.2019.06.083	Mixture models
George, Tk; Liber, K; Solomon, Kr; Sibley, Pk;	2003	Assessment of the probabilistic ecological risk assessment-toxic equivalent combination approach for evaluating pesticide mixture toxicity to zooplankton in outdoor microcosms	http://dx.doi.org/10.1007/s00244-003-2123-9	Mixture models

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Gholami-Seyedkolaei, Sj; Mirvaghefi, A; Farahmand, H; Kosari, Aa;	2013	Optimization of recovery patterns in common carp exposed to roundup using response surface methodology: Evaluation of neurotoxicity and genotoxicity effects and biochemical parameters	http://dx.doi.org/10.1016/j.ecoenv.2013.09.009	DR and TKTD models
Ginebreda, A; Kuzmanovic, M; Guasch, H; De Alda, Ml; Lopez-Doval, Jc; Munoz, I; Ricart, M; Romani, Am; Sabater, S; Barcelo, D;	2014	Assessment of multi-chemical pollution in aquatic ecosystems using toxic units: Compound prioritization, mixture characterization and relationships with biological descriptors	http://dx.doi.org/10.1016/j.scitotenv.2013.08.086	Mixture models
Gokce, S; Sacan, Mt;	2019	Assessments of Algal Toxicity and PBT Behaviour of Pesticides with No Eco-toxicological Data: Predictive Ability of QSA/(T)R Models	http://dx.doi.org/10.1002/minf.201800137	QSARs
Golden N, Noguchi Ge, Paul Ka, Buford Dj	2012	Consideration of Nontraditional Endpoints in the Assessment of Ecological Risk under the Endangered Species Act	http://doi.org/10.1021/bk-2012-1111.ch019	Methods
Gomez-Eyles, Jl; Svendsen, C; Lister, L; Martin, H; Hodson, Me; Spurgeon, Dj;	2009	Measuring and modelling mixture toxicity of imidacloprid and thiacloprid on Caenorhabditis elegans and Eisenia fetida	http://dx.doi.org/10.1016/j.ecoenv.2008.07.006	Mixture models
Goutte, A; Barbraud, C; Herzke, D; Bustamante, P; Angelier, F; Tartu, S; Clernent-Chastel, C; Moe, B; Bech, C; Gabrielsen, Gw; Bustnes, Jo; Chastel, O;	2015	Survival rate and breeding outputs in a high Arctic seabird exposed to legacy persistent organic pollutants and mercury	http://dx.doi.org/10.1016/j.envpol.2015.01.033	Methods
Goutte, A; Meillere, A; Barbraud, C; Budzinski, H; Labadie, P; Peluhet, L; Weimerskirch, H; Delord, K; Chastel, O;	2018	Demographic, endocrine and behavioral responses to mirex in the South polar skua	http://dx.doi.org/10.1016/j.scitotenv.2018.02.326	Population models

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authors	year	title	doi	model type
Hanson, N; Stark, Jd;	2012	Utility of population models to reduce uncertainty and increase value relevance in ecological risk assessments of pesticides: An example based on acute mortality data for daphnids	http://dx.doi.org/10.1002/ieam.272	Population models
Hasenbein, S; Peralta, J; Lawler, Sp; Connon, Re;	2017	Environmentally relevant concentrations of herbicides impact non-target species at multiple sublethal endpoints	http://dx.doi.org/10.1016/j.scitotenv.2017.06.270	Mixture models
Hayashi, Ti; Imaizumi, Y; Yokomizo, H; Tatarazako, N; Suzuki, N;	2016	Ecological risk assessment of herbicides in japan: integrating spatiotemporal variation in exposure and effects using a multimedia model and algal density dynamics models	http://dx.doi.org/10.1002/etc.3162	Population models
He, W; Qin, N; Kong, Xz; Liu, Wx; Wu, Wj; He, Qs; Yang, C; Jiang, Yj; Wang, Qm; Yang, B; Xu, Fl;	2014	Ecological risk assessment and priority setting for typical toxic pollutants in the water from Beijing-Tianjin-Bohai area using Bayesian matbugs calculator (BMC)	http://dx.doi.org/10.1016/j.ecolind.2014.04.008	Multi-species models
Herrmann, K; Holzwarth, A; Rime, S; Fischer, Bc; Kneuer, C;	2020	(Q)SAR tools for the prediction of mutagenic properties: Are they ready for application in pesticide regulation?	http://dx.doi.org/10.1002/ps.5828	Methods
Hesketh, H; Lahive, E; Horton, Aa; Robinson, Ag; Svendsen, C; Rortais, A; Dorne, Jl; Baas, J; Spurgeon, Dj; Heard, Ms;	2016	Extending standard testing period in honeybees to predict lifespan impacts of pesticides and heavy metals using dynamic energy budget modelling	http://dx.doi.org/10.1038/srep37655	DR and TKTD models
Hodgson, Dj; Townley, S;	2004	Linking management changes to population dynamic responses: the transfer function of a projection matrix perturbation	http://dx.doi.org/10.1111/j.0021-8901.2004.00959.x	Population models
Hoffmann, Kc; Deanovic, L; Werner, I; Stillway, M; Fong, S; Teh, S;	2016	An analysis of lethal and sublethal interactions among type I and type II pyrethroid pesticide mixtures using standard Hyalella azteca water column toxicity tests	http://dx.doi.org/10.1002/etc.3422	Mixture models
Holland-Letz T, Leibner A, Knopp-Schneider A	2020	Modeling dose-response functions for combination treatments with log-logistic or Weibull functions.	http://doi.org/10.1007/s00204-019-02631-2	Methods

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authors	year	title	doi	model type
Hommen, U; Forbes, V; Grimm, V; Preuss, Tg; Thorbek, P; Ducrot, V;	2016	How to Use Mechanistic Effect Models in Environmental Risk Assessment of Pesticides: Case Studies and Recommendations from the SETAC Workshop MODELINK	http://dx.doi.org/10.1002/ieam.1704	DR and TKTD models
Hommen, U; Schmitt, W; Heine, S; Brock, Tcm; Duquesne, S; Manson, P; Meregalli, G; Ochoa-Acuna, H; Van Vliet, P; Arts, Ghp;	2016	How TK-TD and Population Models for Aquatic Macrophytes Could Support the Risk Assessment for Plant Protection Products	http://dx.doi.org/10.1002/ieam.1715	DR and TKTD models
Horig, K; Maus, C; Nikolakis, A; Ratte, Ht; Ross-Nickoll, M; Schmitt, W; Preuss, Tg;	2015	The advantage of a toxicokinetic model of the honey bee colony in the context of the risk assessment of plant protection products	NA	DR and TKTD models
Hughes, A; Lissenden, N; Viana, M; Toe, Kh; Ranson, H;	2020	Anopheles gambiae populations from Burkina Faso show minimal delayed mortality after exposure to insecticide-treated nets	http://dx.doi.org/10.1186/s13071-019-3872-2	DR and TKTD models
Ippolito, A; Carolli, M; Varolo, E; Villa, S; Vighi, M;	2012	Evaluating pesticide effects on freshwater invertebrate communities in alpine environment: a model ecosystem experiment	http://dx.doi.org/10.1007/s10646-012-0957-5	Multi-species models
Ishimota, M; Tajiki-Nishino, R; Fukuyama, T; Tomiyama, N; Sakamoto, M; Ohyama, K;	2020	Long-Term Tolerance Acquisition and Changes in Acetylcholinesterase Activity in Three Cladoceran Species After a 48-H Pulsed Exposure to Pirimicarb	http://dx.doi.org/10.1007/s11270-020-04670-3	DR and TKTD models
Ives, Ar; Paull, C; Hulthen, A; Downes, S; Andow, Da; Haygood, R; Zalucki, Mp; Schellhorn, Na;	2017	Spatio-Temporal Variation in Landscape Composition May Speed Resistance Evolution of Pests to Bt Crops	http://dx.doi.org/10.1371/journal.pone.0169167	Landscape models
Ivorra, L; Cruzeiro, C; Chan, Sk; Tagulao, Ka; Cardoso, Pg;	2019	Uptake and depuration kinetics of dicofol metabolite 4,4 '-dichlorobenzophenone, in the edible Asiatic clam Meretrix meretrix	http://dx.doi.org/10.1016/j.chemosphere.2019.06.155	DR and TKTD models
Jackson, Sh; Cowan-Ellsberry, Ce; Thomas, G;	2009	Use of Quantitative Structural Analysis To Predict Fish Bloconcentration Factors for Pesticides	http://dx.doi.org/10.1021/jf803064z	QSARs

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Jager, T;	2020	Revisiting simplified DEBtox models for analysing ecotoxicity data	http://dx.doi.org/10.1016/j.ecolmodel.2019.108904	DR and TKTD models
Jager, T; Crommentuijn, T; Van Gestel, Cam; Kooijman, Salm;	2007	Chronic exposure to chlorpyrifos reveals two modes of action in the springtail Folsomia candida	http://dx.doi.org/10.1016/j.envpol.2006.04.028	DR and TKTD models
Jager, T; Kooijman, Salm;	2005	Modeling receptor kinetics in the analysis of survival data for organophosphorus pesticides	http://dx.doi.org/10.1021/es050817y	DR and TKTD models
Jesenska, S; Nemethova, S; Blaha, L;	2013	Validation of the species sensitivity distribution in retrospective risk assessment of herbicides at the river basin scale-the Scheldt river basin case study	http://dx.doi.org/10.1007/s11356-013-1644-7	Multi-species models
Jia, Qz; Liu, T; Yan, Fy; Wang, Q;	2020	Norm Index-Based QSAR Model for Acute Toxicity of Pesticides Toward Rainbow Trout	http://dx.doi.org/10.1002/etc.4621	QSARs
Johnston, Asa; Holmstrup, M; Hodson, Me; Thorbek, P; Alvarez, T; Sibly, Rm;	2014	Earthworm distribution and abundance predicted by a process-based model	http://dx.doi.org/10.1016/j.apsoil.2014.06.001	Population models
Johnston, Jm;	2001	A scientific and technological framework for evaluating comparative risk in ecological risk assessments	http://dx.doi.org/10.1007/978-94-010-0884-6_13	Methods
Jonsson, Cm; Paraiba, Lc; Mendoza, Mt; Sabater, C; Carrasco, Jm;	2001	Bioconcentration of the insecticide pyridaphenthion by the green algae Chlorella saccharophila	http://dx.doi.org/10.1016/S0045-6535(00)00145-4	DR and TKTD models
Kattwinkel, M; Kuhne, Jv; Foit, K; Liess, M;	2011	Climate change, agricultural insecticide exposure, and risk for freshwater communities	http://dx.doi.org/10.1890/10-1993.1	Landscape models
Kattwinkel, M; Liess, M; Arena, M; Bopp, S; Streissl, F; Rombke, J;	2015	Recovery of aquatic and terrestrial populations in the context of European pesticide risk assessment	http://dx.doi.org/10.1139/er-2015-0013	Landscape models
Kattwinkel, M; Reichert, P; Ruegg, J; Liess, M; Schuwirth, N;	2016	Modeling Macroinvertebrate Community Dynamics in Stream Mesocosms Contaminated with a Pesticide	http://dx.doi.org/10.1021/acs.est.5b04068	Multi-species models

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authors	year	title	doi	model type
Khan, K; Khan, Pm; Lavado, G; Valsecchi, C; Pasqualini, J; Baderna, D; Marzo, M; Lombardo, A; Roy, K; Benfenati, E;	2019	QSAR modeling of Daphnia magna and fish toxicities of biocides using 2D descriptors	http://dx.doi.org/10.1016/j.chemosphere.2019.04.204	QSARs
Khan, Pm; Roy, K; Benfenati, E;	2019	Chemometric modeling of Daphnia magna toxicity of agrochemicals	http://dx.doi.org/10.1016/j.chemosphere.2019.02.147	QSARs
Kim, M; Shin, D; Suh, E; Cho, K;	2004	An assessment of the chronic toxicity of fenpyroximate and pyridaben to Tetranychus urticae using a demographic bioassay	http://dx.doi.org/10.1303/aez.2004.401	Population models
King, Gkk; Larras, F; Charles, S; Delignette-Muller, Ml;	2015	Hierarchical modelling of species sensitivity distribution: Development and application to the case of diatoms exposed to several herbicides	http://dx.doi.org/10.1016/j.ecoenv.2015.01.022	Multi-species models
Kleinmann, Ju; Wang, M;	2017	Modeling individual movement decisions of brown hare (lepus europaeus) as a key concept for realistic spatial behavior and exposure: a population model for landscape-level risk assessment.	http://dx.doi.org/10.1002/etc.3760	Landscape models
Knezevic, V; Tunic, T; Gajic, P; Marjan, P; Savic, D; Tenji, D; Teodorovic, I;	2016	Getting More Ecologically Relevant Information from Laboratory Tests: Recovery of Lemna minor After Exposure to Herbicides and Their Mixtures	http://dx.doi.org/10.1007/s00244-016-0321-5	Mixture models
Kretschmann, A; Ashauer, R; Hollender, J; Escher, Bi;	2012	Toxicokinetic and toxicodynamic model for diazinon toxicity-mechanistic explanation of differences in the sensitivity of Daphnia magna and Gammarus pulex	http://dx.doi.org/10.1002/etc.1905	DR and TKTD models
Kristofco, La; Du, Bw; Chambliss, Ck; Berninger, Jp; Brooks, Bw;	2015	Comparative Pharmacology and Toxicology of Pharmaceuticals in the Environment: Diphenhydramine Protection of Diazinon Toxicity in Danio rerio but Not Daphnia magna	http://dx.doi.org/10.1208/s12248-014-9677-5	Mixture models
Kulakowska, Ka; Kulakowski, Tm; Inglis, Ir; Smith, Gc; Haynes, Pj; Prosser, P; Thorbek, P; Sibly, Rm;	2014	Using an individual-based model to select among alternative foraging strategies of woodpigeons: Data support a memory-based model with a flocking mechanism	http://dx.doi.org/10.1016/j.ecolmode1.2013.09.019	Landscape models

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authors	year	title	doi	model type
Kurth, D; Brack, W; Luckenbach, T;	2015	Is chemosensitisation by environmental pollutants ecotoxicologically relevant?	http://dx.doi.org/10.1016/j.aquatox.2015.07.017	Mixture models
Kuzmanovic, M; Lopez-Doval, Jc; De Castro-Catala, N; Guasch, H; Petrovic, M; Munoz, I; Ginebreda, A; Barcelo, D;	2016	Ecotoxicological risk assessment of chemical pollution in four Iberian river basins and its relationship with the aquatic macroinvertebrate community status	http://dx.doi.org/10.1016/j.scitotenv.2015.06.112	Mixture models
Landis, Wg; Chu, Vr; Graham, Se; Harris, Mj; Markiewicz, Aj; Mitchell, Cj; Von Stackelberg, Ke; Stark, Jd;	2020	Integration of Chlorpyrifos Acetylcholinesterase Inhibition, Water Temperature, and Dissolved Oxygen Concentration into a Regional Scale Multiple Stressor Risk Assessment Estimating Risk to Chinook Salmon	http://dx.doi.org/10.1002/ieam.4199	Population models
Lanteigne, M; Whiting, Sa; Lydy, Mj;	2015	Mixture Toxicity of Imidacloprid and Cyfluthrin to Two Non-target Species, the Fathead Minnow Pimephales promelas and the Amphipod Hyalella azteca	http://dx.doi.org/10.1007/s00244-014-0086-7	Mixture models
Lao,-W;	2021	Fiproles as a proxy for ecological risk assessment of mixture of fipronil and its degradates in effluent-dominated surface water	http://doi.org/10.1016/j.watres.2020.116510	DR and TKTD models
Lazartigues, A; Thomas, M; Banas, D; Brun-Bellut, J; Cren-Olive, C; Feidt, C;	2013	Accumulation and half-lives of 13 pesticides in muscle tissue of freshwater fishes through food exposure	http://dx.doi.org/10.1016/j.chemosphere.2012.12.032	DR and TKTD models
Legrand, E; Boulange-Lecomte, C; Restoux, G; Tremolet, G; Duflot, A; Forget-Leray, J;	2017	Individual and mixture acute toxicity of model pesticides chlordecone and pyriproxyfen in the estuarine copepod Eurytemora affinis	http://dx.doi.org/10.1007/s11356-016-8294-5	Mixture models
Lennon, Rj; Isaac, Njb; Shore, Rf; Peach, Wj; Dunn, Jc; Pereira, Mg; Arnold, Ke; Garthwaite, D; Brown, Cd;	2019	Using long-term datasets to assess the impacts of dietary exposure to neonicotinoids on farmland bird populations in England	http://dx.doi.org/10.1371/journal.pone.0223093	Landscape models

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authors	year	title	doi	model type
Li, Hz; You, J;	2015	APPLICATION OF SPECIES SENSITIVITY DISTRIBUTION IN AQUATIC PROBABILISTIC ECOLOGICAL RISK ASSESSMENT OF CYPERMETHRIN: A CASE STUDY IN AN URBAN STREAM IN SOUTH CHINA	http://dx.doi.org/10.1002/etc.2851	Multi-species models
Li, Hz; You, J; Wang, Wx;	2018	Multi-compartmental toxicokinetic modeling of fipronil in tilapia: Accumulation, biotransformation and elimination	http://dx.doi.org/10.1016/j.jhazmat.2018.07.085	DR and TKTD models
Li, Zj;	2020	Spatiotemporal pattern models for bioaccumulation of pesticides in herbivores: An approximation theory for North American white-tailed deer	http://dx.doi.org/10.1016/j.scitotenv.2020.140271	DR and TKTD models
Liess, M; Foit, K; Knillmann, S; Schafer, Rb; Liess, Hd;	2016	Predicting the synergy of multiple stress effects	http://dx.doi.org/10.1038/srep32965	Mixture models
Lindsay, S; Chasse, J; Butler, Ra; Morrill, W; Van Beneden, Rj;	2010	Impacts of stage-specific acute pesticide exposure on predicted population structure of the soft-shell clam, Mya arenaria	http://dx.doi.org/10.1016/j.aquatox.2010.02.012	Population models
Lister, Lj; Svendsen, C; Wright, J; Hooper, Hl; Spurgeon, Dj;	2011	Modelling the joint effects of a metal and a pesticide on reproduction and toxicokinetics in Lumbricid earthworms	http://dx.doi.org/10.1016/j.envint.2011.01.006	Mixture models
Lo Piparo, E; Fratev, F; Lemke, F; Mazzatorta, P; Smiesko, M; Fritz, Ji; Benfenati, E;	2006	QSAR models for Daphnia magna toxicity prediction of benzoxazinone allelochemicals and their transformation products	http://dx.doi.org/10.1021/jf050918f	QSARs
Lopes, C; Pery, Arr; Chaumot, A; Charles, S;	2005	Ecotoxicology and population dynamics: Using DEBtox models in a Leslie modeling approach	http://dx.doi.org/10.1016/j.ecolmodel.2005.05.004	DR and TKTD models
Lopez Aca, Vl; Gonzalez, Pv; Carriquiriborde, P;	2018	Lethal and sublethal responses in the fish, Odontesthes bonariensis, exposed to chlorpyrifos alone or under mixtures with endosulfan and lambda-cyhalothrin	http://dx.doi.org/10.1007/s10646-018-1941-5	Mixture models
Loureiro, S; Sousa, Jp; Nogueira, Aja; Soares, Amvm;	2002	Assimilation efficiency and toxicokinetics of C-14-lindane in the terrestrial isopod Porcellionides pruinosus: The role of isopods in degradation of persistent soil pollutants	http://dx.doi.org/10.1023/A:1021013519330	DR and TKTD models

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Maclachlan, Dj;	2010	Physiologically based pharmacokinetic (PBPK) model for residues of lipophilic pesticides in poultry	http://dx.doi.org/10.1080/19440040903296683	DR and TKTD models
Maclachlan, Dj;	2009	Influence of physiological status on residues of lipophilic xenobiotics in livestock	http://dx.doi.org/10.1080/02652030802669170	DR and TKTD models
Madariaga-Mazon, A; Osnaya-Hernandez, A; Chavez-Gomez, A; Garcia-Ramos, Jc; Cortes-Guzman, F; Castillo-Pazos, Dj; Martinez-Mayorga, K;	2019	Distribution of toxicity values across different species and modes of action of pesticides from PESTIMEP and PPDB databases	http://dx.doi.org/10.1039/c8tx00322j	DR and TKTD models
Maloney, Em; Morrissey, Ca; Headley, Jv; Peru, Km; Liber, K;	2018	Can chronic exposure to imidacloprid, clothianidin, and thiamethoxam mixtures exert greater than additive toxicity in Chironomus dilutus?	http://dx.doi.org/10.1016/j.ecoenv.2018.03.003	Mixture models
Maloney, Em; Morrissey, Ca; Headley, Jv; Peru, Km; Liber, K;	2017	Cumulative toxicity of neonicotinoid insecticide mixtures to Chironomus dilutus under acute exposure scenarios	http://dx.doi.org/10.1002/etc.3878	Mixture models
Maltby, L; Blake, N; Brock, Tcm; Van Den Brink, Pj;	2005	Insecticide species sensitivity distributions: Importance of test species selection and relevance to aquatic ecosystems	http://dx.doi.org/10.1897/04-025R.1	Multi-species models
Mansano, As; Moreira, Ra; Dornfeld, Hc; Freitas, Ec; Vieira, Em; Daam, Ma; Rocha, O; Seleghim, Mhr;	2020	Individual and mixture toxicity of carbofuran and diuron to the protozoan Paramecium caudatum and the cladoceran Ceriodaphnia silvestrii	http://dx.doi.org/10.1016/j.ecoenv.2020.110829	Mixture models
Mansano, As; Moreira, Ra; Dornfeld, Hc; Freitas, Ec; Vieira, Em; Sarmento, H; Rocha, O; Seleghim, Mhr;	2017	Effects of diuron and carbofuran and their mixtures on the microalgae Raphidocelis subcapitata	http://dx.doi.org/10.1016/j.ecoenv.2017.04.024	Mixture models
Marimuthu, P; Lee, Yj; Kim, B; Seo, Ss;	2019	In silico approaches to evaluate the molecular properties of organophosphate compounds to inhibit acetylcholinesterase activity in housefly	http://dx.doi.org/10.1080/07391102.2018.1426046	QSARs

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authors	year	title	doi	model type
Marques, Cr; Goncalves, Amm; Pereira, R; Goncalves, F;	2012	Ecotoxicological Effects of MIKADO (R) and VIPER (R) on Algae and Daphnids	http://dx.doi.org/10.1002/tox.20687	Mixture models
Martin, Hl; Svendsen, C; Lister, Lj; Gomez-Eyles, Jl; Spurgeon, Dj;	2009	MEASUREMENT AND MODELING OF THE TOXICITY OF BINARY MIXTURES IN THE NEMATODE CAENORHABDITIS ELEGANS-A TEST OF INDEPENDENT ACTION	http://dx.doi.org/10.1897/07-215.1	Mixture models
Maund, Sj; Travis, Kz; Hendley, P; Giddings, Jm; Solomon, Kr;	2001	Probabilistic risk assessment of cotton pyrethroids: V. Combining landscape-level exposures and ecotoxicological effects data to characterize risks	http://dx.doi.org/10.1002/etc.5620200330	Landscape models
Mavroudis, Pd; Hermes, He; Teutonico, D; Preuss, Tg; Schneckener, S;	2018	Development and validation of a physiology based model for the prediction of pharmacokinetics/toxicokinetics in rabbits	http://dx.doi.org/10.1371/journal.pone.0194294	DR and TKTD models
Mayer, M; Duan, Xd; Sunde, P; Topping, Cj;	2020	European hares do not avoid newly pesticide-sprayed fields: Overspray as unnoticed pathway of pesticide exposure	http://dx.doi.org/10.1016/j.scitotenv.2020.136977	Population models
Mazzatorta, P; Benfenati, E; Lorenzini, P; Vighi, M;	2004	QSAR in ecotoxicity: An overview of modern classification techniques	http://dx.doi.org/10.1021/ci034193w	QSARs
Mazzatorta, P; Cronin, Mtd; Benfenati, E;	2006	A QSAR study of avian oral toxicity using support vector machines and genetic algorithms	http://dx.doi.org/10.1002/qsar.200530189	QSARs
Mchugh, B; Law, Rj; Allchin, Cr; Rogan, E; Murphy, S; Foley, Mb; Glynn, D; Mcgovern, E;	2007	Bioaccumulation and enantiomeric profiling of organochlorine pesticides and persistent organic pollutants in the killer whale (Orcinus orca) from British and Irish waters	http://dx.doi.org/10.1016/j.marpolbul.2007.07.004	DR and TKTD models
Mensah, Pk; Palmer, Cg; Muller, Wj;	2013	Derivation of South African water quality guidelines for Roundup (R) using species sensitivity distribution	http://dx.doi.org/10.1016/j.ecoenv.2013.06.009	Multi-species models
Millot, F; Berny, P; Decors, A; Bro, E;	2015	Little field evidence of direct acute and short-term effects of current pesticides on the grey partridge	http://dx.doi.org/10.1016/j.ecoenv.2015.03.017	Population models

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Mintram, Ks; Brown, Ar; Maynard, Sk; Liu, C; Parker, Sj; Tyler, Cr; Thorbek, P;	2018	Assessing population impacts of toxicant-induced disruption of breeding behaviours using an individual-based model for the three-spined stickleback	http://dx.doi.org/10.1016/j.ecolmodel.2018.09.003	Population models
Moe, Sj; Hjermann, Do; Ravagnan, E; Bechmann, Rk;	2019	Effects of an aquaculture pesticide (diflubenzuron) on non-target shrimp populations: Extrapolation from laboratory experiments to the risk of population decline	http://dx.doi.org/10.1016/j.ecolmodel.2019.108833	Population models
Moe, Sj; Wolf, R; Xie, L; Landis, Wg; Kotamaki, N; Tollefsen, Ke;	2020	Quantification of an Adverse Outcome Pathway Network by Bayesian Regression and Bayesian Network Modeling	http://dx.doi.org/10.1002/ieam.4348	DR and TKTD models
Monti, Gs; Migliorati, S; Hron, K; Hruzova, K; Fiserova, E;	2015	Log-ratio approach in curve fitting for concentration-response experiments	http://dx.doi.org/10.1007/s10651-014-0298-z	DR and TKTD models
Moore, Drj; Priest, Cd; Olson, Ad; Teed, Rs;	2018	A Probabilistic Risk Assessment for the Kirtland's Warbler Potentially Exposed to Chlorpyrifos and Malathion During the Breeding Season and Migration	http://dx.doi.org/10.1002/ieam.2004	Landscape models
Moreira, Ra; Daam, Ma; Vieira, Bh; Sanches, Alm; Reghini, Mv; Mansano, Ad; De Freitas, Ec; Espindola, Elg; Rocha, O;	2017	Toxicity of abamectin and difenoconazole mixtures to a Neotropical cladoceran after simulated run-off and spray drift exposure	http://dx.doi.org/10.1016/j.aquatox.2017.02.001	Mixture models
Morgado, Rg; Gomes, Pad; Ferreira, Ngc; Cardoso, Dn; Santos, Mjg; Soares, Amvm; Loureiro, S;	2016	Toxicity interaction between chlorpyrifos, mancozeb and soil moisture to the terrestrial isopod Porcellionides pruinosus	http://dx.doi.org/10.1016/j.chemosphere.2015.10.034	Mixture models
Morrison, Sa; Belden, Jb;	2016	Development of helisoma trivolvis pond snails as biological samplers for biomonitoring of current-use pesticides	http://dx.doi.org/10.1002/etc.3400	DR and TKTD models
Nagai, T;	2014	Algal Population Growth Model Integrated with Toxicokinetics for Ecological Risk Assessment under Time-Varying Pesticide Exposure	http://dx.doi.org/10.1080/10807039.2013.791545	DR and TKTD models

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authors	year	title	doi	model type
Nagai, T; Inao, K; Horio, T;	2008	Probabilistic ecological risk assessment of paddy herbicide in Japanese river waters using uncertainty analysis: A case study for simetryn	http://dx.doi.org/10.1584/jpestics.33.393	Multi-species models
Nagai, T; Taya, K;	2015	ESTIMATION OF HERBICIDE SPECIES SENSITIVITY DISTRIBUTION USING SINGLE-SPECIES ALGAL TOXICITY DATA AND INFORMATION ON THE MODE OF ACTION	http://dx.doi.org/10.1002/etc.2828	Multi-species models
Nélieu, S; Delarue, G; Amosse, J; Bart, S; Péry, A; Pelosi, C;	2020	Soil dissipation and bioavailability to earthworms of two fungicides under laboratory and field conditions	https://doi.org/10.1007/s11356-020-10222-3	DR and TKTD models
Nendza, M; Herbst, T;	2011	Screening for low aquatic bioaccumulation (2): physico-chemical constraints	http://dx.doi.org/10.1080/1062936X.2011.569896	QSARs
Nfon, E; Armitage, Jm; Cousins, It;	2011	Development of a dynamic model for estimating the food web transfer of chemicals in small aquatic ecosystems	http://dx.doi.org/10.1016/j.scitotenv.2011.08.070	Multi-species models
Nian, Xg; He, Yr; Lu, Lh; Zhao, R;	2015	Evaluation of the time-concentration-mortality responses of Plutella xylostella larvae to the interaction of Isaria fumosorosea with the insecticides beta-cypermethrin and Bacillus thuringiensis	http://dx.doi.org/10.1002/ps.3784	DR and TKTD models
Nielsen, Lw; Dahllof, I;	2007	Direct and indirect effects of the herbicides Glyphosate, Bentazone and MCPA on eelgrass (Zostera marina)	http://dx.doi.org/10.1016/j.aquatox.2007.01.004	Mixture models
Nienstedt, Km; Brock, Tcm; Van Wensem, J; Montforts, M; Hart, A; Aagaard, A; Alix, A; Boesten, J; Bopp, Sk; Brown, C; Capri, E; Forbes, V; Kopp, H; Liess, M; Luttik, R; Maltby, L; Sousa, Jp; Streissl, F; Hardy, Ar	2012	Development of a framework based on an ecosystem services approach for deriving specific protection goals for environmental risk assessment of pesticides	http://dx.doi.org/10.1016/j.scitotenv.2011.05.057	Methods

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Nogeire-Mcrae, T; Lawler, Jj; Schumaker, Nh; Cypher, Bl; Phillips, Se;	2019	Land use change and rodenticide exposure trump climate change as the biggest stressors to San Joaquin kit fox	http://dx.doi.org/10.1371/journal.pone.0214297	Landscape models
Nogeire, Tm; Lawler, Jj; Schumaker, Nh; Cypher, Bl; Phillips, Se;	2015	Land Use as a Driver of Patterns of Rodenticide Exposure in Modeled Kit Fox Populations	http://dx.doi.org/10.1371/journal.pone.0133351	Landscape models
Nowell, Lh; Norman, Je; Moran, Pw; Martin, Jd; Stone, Ww;	2014	Pesticide Toxicity Index-A tool for assessing potential toxicity of pesticide mixtures to freshwater aquatic organisms	http://dx.doi.org/10.1016/j.scitotenv.2013.12.088	Mixture models
Nyman, Am; Hintermeister, A; Schirmer, K; Ashauer, R;	2013	The Insecticide Imidacloprid Causes Mortality of the Freshwater Amphipod Gammarus pulex by Interfering with Feeding Behavior	http://dx.doi.org/10.1371/journal.pone.0062472	DR and TKTD models
Nyman, Am; Schirmer, K; Ashauer, R;	2012	Toxicokinetic-toxicodynamic modelling of survival of Gammarus pulex in multiple pulse exposures to propiconazole: model assumptions, calibration data requirements and predictive power	http://dx.doi.org/10.1007/s10646-012-0917-0	DR and TKTD models
Ockleford, C; Adriaanse, P; Berny, P; Brock, Tcm; Duquesne, S; Grilli, S; Hernandez-Jerez, Af; Bennekou, Sh; Klein, M; Kuhl, T; Laskowski, R; Machera, K; Pelkonen, O; Pieper, S; Smith, Rh; Stemmer, M; Sundh, I; Tiktak, A; Topping, Cj; Wolterink, G; Cedergreen, N; Charles, S; Focks, A; Reed, M; Arena, M; Ippolito, A; Byers, H; Teodorovic, I;	2018	Scientific Opinion on the state of the art of Toxicokinetic/Toxicodynamic (TKTD) effect models for regulatory risk assessment of pesticides for aquatic organisms	http://dx.doi.org/10.2903/j.efsa.2018.5377	DR and TKTD models

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Ockleford, C; Adriaanse, P; Berny, P; Brock, Tcm; Duquesne, S; Grilli, S; Hernandez-Jerez, Af; Bennekou, Sh; Klein, M; Kuhl, T; Laskowski, R; Machera, K; Pelkonen, O; Pieper, S; Stemmer, M; Sundh, I; Teodorovic, I; Tiktak, A; Topping, Cj; Wolterink, G; Aldrich, A; Berg, C; Ortiz-Santaliestra, M; Weir, S; Streissl, F; Smith, Rh;	2018	Scientific Opinion on the state of the science on pesticide risk assessment for amphibians and reptiles	http://dx.doi.org/10.2903/j.efsa.2018.5125	Methods
Ockleford, C; Adriaanse, P; Berny, P; Brock, Tcm; Duquesne, S; Grilli, S; Hernandez-Jerez, Af; Bennekou, Sh; Klein, M; Kuhl, T; Laskowski, R; Machera, K; Pelkonen, O; Pieper, S; Stemmer, M; Sundh, I; Teodorovic, I; Tiktak, A; Topping, Cj; Wolterink, G; Craig, P; De Jong, F; Manachini, B; Sousa, P; Swarowsky, K; Auteri, D; Arena, M; Rob, S;	2017	Scientific Opinion addressing the state of the science on risk assessment of plant protection products for in-soil organisms	http://dx.doi.org/10.2903/j.efsa.2017.4690	Methods
Olmstead, Aw; Leblanc, Ga;	2003	Insecticidal juvenile hormone analogs stimulate the production of male offspring in the crustacean Daphnia magna	http://dx.doi.org/10.1289/ehp.5982	Mixture models
Onstad, Dw; Meinke, Lj;	2010	Modeling Evolution of Diabrotica virgifera virgifera (Coleoptera: Chrysomelidae) to Transgenic Corn With Two Insecticidal Traits	http://dx.doi.org/10.1603/EC09199	Methods

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authors	year	title	doi	model type
Onwona-Kwakye, M; Hogarh, Jn; Van Den Brink, Pj;	2020	Environmental risk assessment of pesticides currently applied in Ghana	http://dx.doi.org/10.1016/j.chemosphere.2020.126845	Methods
Pandey, Sk; Ojha, Pk; Roy, K;	2020	Exploring QSAR models for assessment of acute fish toxicity of environmental transformation products of pesticides (ETPPs)	http://dx.doi.org/10.1016/j.chemosphere.2020.126508	QSARs
Perez, J; Domingues, I; Soares, Amvm; Loureiro, S;	2011	Growth rate of Pseudokirchneriella subcapitata exposed to herbicides found in surface waters in the Alqueva reservoir (Portugal): a bottom-up approach using binary mixtures	http://dx.doi.org/10.1007/s10646-011-0661-x	Mixture models
Pestana, Jlt; Loureiro, S; Baird, Dj; Soares, Amm;	2010	Pesticide exposure and inducible antipredator responses in the zooplankton grazer, Daphnia magna Straus	http://dx.doi.org/10.1016/j.chemosphere.2009.10.066	Mixture models
Petschick, Ll; Bub, S; Wolfram, J; Stehle, S; Schulz, R;	2019	Modeling Regulatory Threshold Levels for Pesticides in Surface Waters from Effect Databases	http://dx.doi.org/10.3390/data4040150	QSARs
Phyu, Yl; Palmer, Cg; Warne, Ms; Hose, Gc; Chapman, Jc; Lim, Rp;	2011	A comparison of mixture toxicity assessment: Examining the chronic toxicity of atrazine, permethrin and chlorothalonil in mixtures to Ceriodaphnia cf. dubia	http://dx.doi.org/10.1016/j.chemosphere.2011.07.061	Mixture models
Pieters, Bj; Jager, T; Kraak, Mhs; Admiraal, W;	2006	Modeling responses of Daphnia magna to pesticide pulse exposure under varying food conditions: intrinsic versus apparent sensitivity	http://dx.doi.org/10.1007/s10646-006-0100-6	DR and TKTD models
Pisani, Jm; Grant, We; Mora, Ma;	2008	Simulating the impact of cholinesterase-inhibiting pesticides on non-target wildlife in irrigated crops	http://dx.doi.org/10.1016/j.ecolmodel.2007.07.017	DR and TKTD models
Preuss, Tg; Hammers-Wirtz, M; Ratte, Ht;	2010	The potential of individual based population models to extrapolate effects measured at standardized test conditions to relevant environmental conditions-an example for 3,4-dichloroaniline on Daphnia magna	http://dx.doi.org/10.1039/c0em00096e	Population models
Prud'homme, Sm; Chaumot, A; Cassar, E; David, Jp; Reynaud, S;	2017	Impact of micropollutants on the life-history traits of the mosquito Aedes aegypti: On the relevance of transgenerational studies	http://dx.doi.org/10.1016/j.envpol.2016.09.056	Population models

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Qiao, K; Fu, Wj; Jiang, Y; Chen, Ll; Li, Sy; Ye, Qf; Gui, Wj;	2020	QSAR models for the acute toxicity of 1,2,4-triazole fungicides to zebrafish (Danio rerio) embryos	http://dx.doi.org/10.1016/j.envpol.2020.114837	QSARs
Qin, Lt; Wu, J; Mo, Ly; Zeng, Hh; Liang, Yp;	2015	Linear regression model for predicting interactive mixture toxicity of pesticide and ionic liquid	http://dx.doi.org/10.1007/s11356-015-4584-6	Mixture models
Qiu, X; Tanoue, W; Kawaguchi, A; Yanagawa, T; Seki, M; Shimasaki, Y; Honjo, T; Oshima, Y;	2017	Interaction patterns and toxicities of binary and ternary pesticide mixtures to Daphnia magna estimated by an accelerated failure time model	http://dx.doi.org/10.1016/j.scitotenv.2017.07.034	Mixture models
Qu, Cs; Chen, W; Bi, J; Huang, L; Li, Fy;	2011	Ecological risk assessment of pesticide residues in Taihu Lake wetland, China	http://dx.doi.org/10.1016/j.ecolmodel.2010.07.014	Multi-species models
Raby, M; Maloney, E; Poirier, Dg; Sibley, Pk;	2019	Acute Effects of Binary Mixtures of Imidacloprid and Tebuconazole on 4 Freshwater Invertebrates	http://dx.doi.org/10.1002/etc.4386	Mixture models
Raimondo S, Schmolke A, Pollesch N, Accolla C, Galic N, Moore A, Vaugeois M, Rueda-Cediel P, Kanarek A, Awkerman J, Forbes V	2021	Pop-GUIDE: Population modeling Guidance, Use, Interpretation, and Development for Ecological Risk Assessment.	http://dx.doi.org/10.1002/ieam.4377	Population models
Raimondo, S; Barron, Mg;	2020	Application of Interspecies Correlation Estimation (ICE) models and QSAR in estimating species sensitivity to pesticides	http://dx.doi.org/10.1080/1062936X.2019.1686716	QSARs
Raimondo, S; Mckenney, Cl;	2005	Projected population-level effects of thiobencarb exposure on the mysid, Americamysis bahia, and extinction probability in a concentration-decay exposure system	http://dx.doi.org/10.1897/04-187R.1	Population models
Ramo, Ra; Van Den Brink, Pj; Ruepert, C; Castillo, Le; Gunnarsson, Js;	2018	Environmental risk assessment of pesticides in the River Madre de Dios, Costa Rica using PERPEST, SSD, and msPAF models	http://dx.doi.org/10.1007/s11356-016-7375-9	Multi-species models

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authors	year	title	doi	model type
Reed, M; Alvarez, T; Chelinho, S; Forbes, V; Johnston, Asa; Meli, M; Voss, F; Pastorok, R;	2016	A Risk Assessment Example for Soil Invertebrates Using Spatially Explicit Agent-Based Models	http://dx.doi.org/10.1002/ieam.1713	Population models
Reeg, J; Heine, S; Mihan, C; Mcgee, S; Preuss, Tg; Jeltsch, F;	2018	Simulation of herbicide impacts on a plant community: comparing model predictions of the plant community model IBC-grass to empirical data	http://dx.doi.org/10.1186/s12302-018-0174-9	Multi-species models
Reeg, J; Heine, S; Mihan, C; Preuss, Tg; Mcgee, S; Jeltsch, F;	2018	Potential impact of effects on reproductive attributes induced by herbicides on a plant community	http://dx.doi.org/10.1002/etc.4122	Multi-species models
Reeg, J; Schad, T; Preuss, Tg; Solga, A; Korner, K; Mihan, C; Jeltsch, F;	2017	Modelling direct and indirect effects of herbicides on non-target grassland communities	http://dx.doi.org/10.1016/j.ecolmodel.2017.01.010	Population models
Reinert, Kh; Giddings, Ja; Judd, L;	2002	Effects analysis of time-varying or repeated exposures in aquatic ecological risk assessment of agrochemicals	http://dx.doi.org/10.1002/etc.5620210928	DR and TKTD models
Ren, J; Wang, Xp; Wang, Cf; Gong, P; Wang, Xr; Yao, Td;	2017	Biomagnification of persistent organic pollutants along a high-altitude aquatic food chain in the Tibetan Plateau: Processes and mechanisms	http://dx.doi.org/10.1016/j.envpol.2016.10.019	DR and TKTD models
Ren, Zm; Liu, L; Fu, Rs; Miao, Ms;	2013	The Stepwise Behavioral Responses: Behavioral Adjustment of the Chinese Rare Minnow (Gobiocypris rarus) in the Exposure of Carbamate Pesticides	http://dx.doi.org/10.1155/2013/697279	DR and TKTD models
Richardson, L; Bang, Js; Budreski, K; Dunne, J; Winchell, M; Brain, Ra; Feken, M;	2019	A Probabilistic Co-Occurrence Approach for Estimating Likelihood of Spatial Overlap Between Listed Species Distribution and Pesticide Use Patterns	http://dx.doi.org/10.1002/ieam.4191	Landscape models
Rico, A; Arenas-Sanchez, A; Pasqualini, J; Garcia-Astillero, A; Cherta, L; Nozal, L; Vighi, M;	2018	Effects of imidacloprid and a neonicotinoid mixture on aquatic invertebrate communities under Mediterranean conditions	http://dx.doi.org/10.1016/j.aquatox.2018.09.004	Multi-species models

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authors	year	title	doi	model type
Rico, A; Brock, Tcm; Daam, Ma;	2019	Is the Effect Assessment Approach for Fungicides as Laid Down in the European Food Safety Authority Aquatic Guidance Document Sufficiently Protective for Freshwater Ecosystems?	http://dx.doi.org/10.1002/etc.4520	Population models
Rico, A; Van Den Brink, Pj; Gylstra, R; Focks, A; Brock, Tcm;	2016	Developing ecological scenarios for the prospective aquatic risk assessment of pesticides	http://dx.doi.org/10.1002/ieam.1718	Population models
Rico, A; Waichman, Av; Geber-Correa, R; Van Den Brink, Pj;	2011	Effects of malathion and carbendazim on Amazonian freshwater organisms: comparison of tropical and temperate species sensitivity distributions	http://dx.doi.org/10.1007/s10646-011-0601-9	Multi-species models
Robinson, A; Hesketh, H; Lahive, E; Horton, Aa; Svendsen, C; Rortais, A; Dorne, Jl; Baas, J; Heard, Ms; Spurgeon, Dj;	2017	Comparing bee species responses to chemical mixtures: Common response patterns?	http://dx.doi.org/10.1371/journal.pone.0176289	Mixture models
Rocha, O; Neto, Ajg; Lima, Jcd; Freitas, Ec; Miguel, M; Mansano, Ad; Moreira, Ra; Daam, Ma;	2018	Sensitivities of three tropical indigenous freshwater invertebrates to single and mixture exposures of diuron and carbofuran and their commercial formulations	http://dx.doi.org/10.1007/s10646-018-1921-9	Mixture models
Roeben, V; Oberdoerster, S; Rakel, Kj; Liesy, D; Capowiez, Y; Ernst, G; Preuss, Tg; Gergs, A; Oberdoerster, C;	2020	Towards a spatiotemporally explicit toxicokinetic-toxicodynamic model for earthworm toxicity	http://dx.doi.org/10.1016/j.scitotenv.2020.137673	DR and TKTD models
Rortais, A; Arnold, G; Dorne, Jl; More, Sj; Sperandio, G; Streissl, F; Szentes, C; Verdonck, F;	2017	Risk assessment of pesticides and other stressors in bees: Principles, data gaps and perspectives from the European Food Safety Authority	http://dx.doi.org/10.1016/j.scitotenv.2016.09.127	Population models
Rosch, A; Gottard, M; Vignet, C; Cedergreen, N; Hollender, J;	2017	Mechanistic Understanding of the Synergistic Potential of Azole Fungicides in the Aquatic Invertebrate Gammarus pulex	http://dx.doi.org/10.1021/acs.est.7b03088	DR and TKTD models

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Rubach, Mn; Ashauer, R; Maund, Sj; Baird, Dj; Van Den Brink, Pj;	2010	TOXICOKINETIC VARIATION IN 15 FRESHWATER ARTHROPOD SPECIES EXPOSED TO THE INSECTICIDE CHLORPYRIFOS	http://dx.doi.org/10.1002/etc.273	DR and TKTD models
Rubach, Mn; Baird, Dj; Boerwinkel, Mc; Maund, Sj; Roessink, I; Van Den Brink, Pj;	2012	Species traits as predictors for intrinsic sensitivity of aquatic invertebrates to the insecticide chlorpyrifos	http://dx.doi.org/10.1007/s10646-012-0962-8	DR and TKTD models
Rueda-Cediel, P; Brain, R; Galic, N; Forbes, V;	2019	Comparative Analysis of Plant Demographic Traits Across Species of Different Conservation Concern: Implications for Pesticide Risk Assessment	http://dx.doi.org/10.1002/etc.4472	Population models
Sanches, Alm; Daam, Ma; Freitas, Ec; Godoy, Aa; Meireles, G; Almeida, Ar; Domingues, I; Espindola, Elg;	2018	Lethal and sublethal toxicity of abamectin and difenoconazole (individually and in mixture) to early life stages of zebrafish	http://dx.doi.org/10.1016/j.chemosphere.2018.07.027	Mixture models
Sanchez-Avila, J; Vicente, J; Echavarri-Erasun, B; Porte, C; Tauler, R; Lacorte, S;	2013	Sources, fluxes and risk of organic micropollutants to the Cantabrian Sea (Spain)	http://dx.doi.org/10.1016/j.marpolbul.2013.04.010	Methods
Sanchez-Bayo, F; Baskaran, S; Kennedy, Ir;	2002	Ecological relative risk (EcoRR): another approach for risk assessment of pesticides in agriculture	http://dx.doi.org/10.1016/S0167-8809(01)00258-4	Multi-species models
Santos, Mjg; Soares, Amvm; Loureiro, S;	2010	Joint effects of three plant protection products to the terrestrial isopod Porcellionides pruinosus and the collembolan Folsomia candida	http://dx.doi.org/10.1016/j.chemosphere.2010.05.031	Mixture models
Satyanarayan, S; Ramakant, ;	2004	Bioaccumulation kinetics and bioconcentration factor of chlorinated pesticides in tissues of Puntius ticto (Ham.)	http://dx.doi.org/10.1081/PFC-120030245	DR and TKTD models
Schaefer, Rb; Kuhn, B; Hauer, L; Kattwinkel, M;	2017	Assessing recovery of stream insects from pesticides using a two-patch metapopulation model	http://dx.doi.org/10.1016/j.scitotenv.2017.07.222	Landscape models

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authors	year	title	doi	model type
Schaefer, Rb; Von Der Ohe, Pc; Rasmussen, J; Kefford, Bj; Beketov, Ma; Schulz, R; Liess, M;	2012	Thresholds for the Effects of Pesticides on Invertebrate Communities and Leaf Breakdown in Stream Ecosystems	http://dx.doi.org/10.1021/es2039882	Multi-species models
Schell, T; Goedkoop, W; Zubrod, Jp; Feckler, A; Luderwald, S; Schulz, R; Bundschuh, M;	2018	Assessing the effects of field-relevant pesticide mixtures for their compliance with the concentration addition model - An experimental approach with Daphnia magna	http://dx.doi.org/10.1016/j.scitotenv.2018.06.334	Mixture models
Schmidt, Am; Sengupta, N; Saski, Ca; Noorai, Re; Baldwin, Ws;	2017	RNA sequencing indicates that atrazine induces multiple detoxification genes in Daphnia magna and this is a potential source of its mixture interactions with other chemicals	http://dx.doi.org/10.1016/j.chemosphere.2017.09.107	Mixture models
Schmidt, S; Busch, W; Altenburger, R; Kuster, E;	2016	Mixture toxicity of water contaminants-effect analysis using the zebrafish embryo assay (Danio rerio)	http://dx.doi.org/10.1016/j.chemosphere.2016.03.006	Mixture models
Schmitt, W; Bruns, E; Dollinger, M; Sowig, P;	2013	Mechanistic TK/TD-model simulating the effect of growth inhibitors on Lemna populations	http://dx.doi.org/10.1016/j.ecolmodel.2013.01.017	Population models
Schmolke, A; Abi-Akar, F; Hinarejos, S;	2019	Honey bee colony-level exposure and effects in realistic landscapes: An application of BEEHAVE simulating clothianidin residues in corn pollen	http://dx.doi.org/10.1002/etc.4314	Population models
Schmolke, A; Brain, R; Thorbek, P; Perkins, D; Forbes, V;	2018	Assessing and mitigating simulated population-level effects of 3 herbicides to a threatened plant: Application of a species-specific population model of Boltonia decurrens	http://dx.doi.org/10.1002/etc.4093	Population models
Schmolke, A; Brain, R; Thorbek, P; Perkins, D; Forbes, V;	2017	Population modeling for pesticide risk assessment of threatened species - A case study of a terrestrial plant, Boltonia decurrens	http://dx.doi.org/10.1002/etc.3576	Population models
Schmolke, A; Kapo, Ke; Rueda-Cediel, P; Thorbek, P; Brain, R; Forbes, V;	2017	Developing population models: A systematic approach for pesticide risk assessment using herbaceous plants as an example	http://dx.doi.org/10.1016/j.scitotenv.2017.05.116	Population models
Schmolke, A; Roy, C; Brain, R; Forbes, V;	2018	Adapting population models for application in pesticide risk assessment: A case study with Mead's milkweed	http://dx.doi.org/10.1002/etc.4172	Population models

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authors	year	title	doi	model type
Schmolke, A; Thorbek, P; Chapman, P; Grimm, V;	2010	ECOLOGICAL MODELS AND PESTICIDE RISK ASSESSMENT: CURRENT MODELING PRACTICE	http://dx.doi.org/10.1002/etc.120	Population models
Scholz-Starke, B; Bo, L; Holbach, A; Norra, S; Floehr, T; Hollert, H; Ross-Nickoll, M; Schaffer, A; Ottermanns, R;	2018	Simulation-based assessment of the impact of fertiliser and herbicide application on freshwater ecosystems at the Three Gorges Reservoir in China	http://dx.doi.org/10.1016/j.scitotenv.2018.05.057	DR and TKTD models
Schuler, Lj; Rand, Gm;	2008	Aquatic risk assessment of herbicides in freshwater ecosystems of south Florida	http://dx.doi.org/10.1007/s00244-007-9085-2	Mixture models
Schuwirth N, Borgwardt F, Domisch S, Friedrichs M, Kattwinkel M, Kneis D, Kuemmerlen M, Langhans Sd, Martinez-Lopez J, Vermeiren P	2019	How to make ecological models useful for environmental management	https://doi.org/10.1016/j.ecolmodel.2019.108784	Methods
Shahid, N; Liess, M; Knillmann, S;	2019	Environmental Stress Increases Synergistic Effects of Pesticide Mixtures on Daphnia magna	http://dx.doi.org/10.1021/acs.est.9b04293	Mixture models
Silva, C; Nunes, B; Nogueira, Aja; Goncalves, F; Pereira, Jl;	2016	In vitro test systems supporting the development of improved pest control methods: a case study with chemical mixtures and bivalve biofoulers	http://dx.doi.org/10.1080/08927014.2016.1241993	Mixture models
Silva, E; Daam, Ma; Cerejeira, Mj;	2015	Predicting the aquatic risk of realistic pesticide mixtures to species assemblages in Portuguese river basins	http://dx.doi.org/10.1016/j.jes.2014.11.006	Multi-species models
Silva, Lde; Alves, Mf; Scotti, L; Lopes, Ws; Scotti, Mt;	2018	Predictive ecotoxicity of MoA 1 of organic chemicals using in silico approaches	http://dx.doi.org/10.1016/j.ecoenv.2018.01.054	QSARs
Slater, R; Stratonovitch, P; Elias, J; Semenov, Ma; Denholm, I;	2017	Use of an individual-based simulation model to explore and evaluate potential insecticide resistance management strategies	http://dx.doi.org/10.1002/ps.4456	Population models
Solomon, Kr; Giddings, Jm; Maund, Sj;	2001	Probabilistic risk assessment of cotton pyrethroids: I. Distributional analyses of laboratory aquatic toxicity data	http://dx.doi.org/10.1002/etc.5620200326	Multi-species models

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Sorensen, Pb; Kjaer, C; Wiberg-Larsen, P; Bruus, M; Strandberg, B; Rasmussen, Jj; Damgaard, Cf; Larsen, Se; Strandberg, M;	2020	Pesticide risk indicator for terrestrial adult stages of aquatic insects	http://dx.doi.org/10.1016/j.ecolind.2020.106718	DR and TKTD models
Spurgeon, Dj;	2020	Higher than ... or lower than .... ? Evidence for the validity of the extrapolation of laboratory toxicity test results to predict the effects of chemicals and ionising radiation in the field	http://dx.doi.org/10.1016/j.jenvrad.2018.06.022	Methods
Stark, Jd;	2012	Demography and Modeling To Improve Pesticide Risk Assessment of Endangered Species	http://dx.doi.org/10.1021/bk-2012-1111.ch018	Population models
Stark, Jd; Banks, Je;	2003	Population-level effects of pesticides and other toxicants on arthropods	http://dx.doi.org/10.1146/annurev.ento.48.091801.112621	Population models
Stark, Jd; Banks, Je; Acheampong, S;	2004	Estimating susceptibility of biological control agents to pesticides: influence of life history strategies and population structure	http://dx.doi.org/10.1016/j.biocontrol.2003.07.003	Population models
Stark, Jd; Vargas, Ri; Banks, Je;	2015	Incorporating variability in point estimates in risk assessment: Bridging the gap between LC50 and population endpoints	http://dx.doi.org/10.1002/etc.2978	Population models
Stenrod, M; Heggen, He; Bolli, Ri; Eklo, Om;	2008	Testing and comparison of three pesticide risk indicator models under Norwegian conditions - A case study in the Skuterud and Heiabekken catchments	http://dx.doi.org/10.1016/j.agee.2007.03.003	DR and TKTD models
Strassemeyer, J; Golla, B;	2018	Environmental Risk Assessment of Surveyed Pesticide Applications from Reference Farms Using SYNOPS	http://dx.doi.org/10.1007/s10343-018-0426-z	Landscape models
Streissl, F; Egsmose, M; Tarazona, Jv;	2018	Linking pesticide marketing authorisations with environmental impact assessments through realistic landscape risk assessment paradigms	http://dx.doi.org/10.1007/s10646-018-1962-0	Methods

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Sullivan, Jp; Wisk, Jd;	2013	Using the terrestrial residue exposure (T-REX) model to assess threatened and endangered bird exposure to and risk from pesticides	http://dx.doi.org/10.1002/ieam.1390	DR and TKTD models
Sunding, D; Zivin, J;	2000	Insect population dynamics, pesticide use, and farmworker health	http://dx.doi.org/10.1111/0002-9092.00044	Population models
Svendsen, C; Siang, P; Lister, Lj; Rice, A; Spurgeon, Dj;	2010	Similarity, independence, or interaction for binary mixture effects of nerve toxicants for the nematode caenorhabditis elegans	http://dx.doi.org/10.1002/etc.140	Mixture models
Szabo, Jk; Davy, Pj; Hooper, Mj; Astheimer, Lb;	2009	Predicting avian distributions to evaluate spatiotemporal overlap with locust control operations in eastern Australia	http://dx.doi.org/10.1890/08-0264.1	Landscape models
Tagun, R; Boxall, Aba;	2018	The Response of Lemna minor to Mixtures of Pesticides That Are Commonly Used in Thailand	http://dx.doi.org/10.1007/s00128-018-2291-y	Mixture models
Tang, Jym; Escher, Bi;	2014	Realistic environmental mixtures of micropollutants in surface, drinking, and recycled water: herbicides dominate the mixture toxicity toward algae	http://dx.doi.org/10.1002/etc.2580	Mixture models
Tang, Sy; Liang, Jh; Xiang, Cc; Xiao, Yn; Wang, X; Wu, Jh; Li, Gp; Cheke, Ra;	2019	A general model of hormesis in biological systems and its application to pest management	http://dx.doi.org/10.1098/rsif.2019.0468	Population models
Tao, Mt; Bian, Zq; Zhang, J; Wang, T; Shen, Hy;	2020	Quantitative evaluation and the toxicity mechanism of synergism within three organophosphorus pesticide mixtures toChlorella pyrenoidosa	http://dx.doi.org/10.1039/d0em00262c	Mixture models
Thomas Pc, Bicherel P, Bauer Fj	2019	How in silico and QSAR approaches can increase confidence in environmental hazard and risk assessment	http://dx.doi.org/10.1002/ieam.4108	Methods
Thompson, Hm; Wilkins, S; Battersby, Ah; Waite, Rj; Wilkinson, D;	2005	The effects of four insect growth-regulating (IGR) insecticides on honeybee (Apis mellifera l.) colony development, queen rearing and drone sperm production	http://dx.doi.org/10.1007/s10646-005-0024-6	Population models
Thorbek, P; Campbell, Pj; Sweeney, Pj; Thompson, Hm;	2017	Using BEEHAVE to explore pesticide protection goals for European honeybee (Apis melifera L.) worker losses at different forage qualities	http://dx.doi.org/10.1002/etc.3504	Population models

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Thursby, G; Sappington, K; Etterson, M;	2018	Coupling toxicokinetic-toxicodynamic and population models for assessing aquatic ecological risks to time-varying pesticide exposures	http://dx.doi.org/10.1002/etc.4224	Population models
Tonnang, Henri E. Z.; Herve, Bisseleua D. B.; Biber-Freudenberger, Lisa; Salifu, Daisy; Subramanian, Sevgan; Ngowi, Valentine B.; Guimapi, Ritter Y. A.; Anani, Bruce; Kakmeni, Francois M. M.; Affognong, Hippolyte; Niassy, Saliou; Landmann, Tobias; Ndjomatchoua, Frank T.; Pedro, Sansao A.; Johansson, Tino; Tanga, Chrysantus M.; Nana, Paulin; Fiaboe, Komi M.; Mohamed, Samira F.; Maniania, Nguya K.; Nedorezov, Lev V.; Ekesi, Sunday; Borgemeister, Christian	2017	Advances in crop insect modelling methods-Towards a whole system approach	http://dx.doi.org/10.1016/j.ecolmodel.2017.03.015	Population models
Topping, Cj; Craig, Ps; De Jong, F; Klein, M; Laskowski, R; Manachini, B; Pieper, S; Smith, R; Sousa, Jp; Streissl, F; Swarowsky, K; Tiktak, A; Van Der Linden, T;	2015	Towards a landscape scale management of pesticides: ERA using changes in modelled occupancy and abundance to assess long-term population impacts of pesticides	http://dx.doi.org/10.1016/j.scitotenv.2015.07.152	Landscape models
Topping, Cj; Dalby, L; Skov, F;	2016	Landscape structure and management alter the outcome of a pesticide ERA: Evaluating impacts of endocrine disruption using the ALMaSS European Brown Hare model	http://dx.doi.org/10.1016/j.scitotenv.2015.10.042	Landscape models
Topping, Cj; Odderskaer, P;	2004	Modeling the influence of temporal and spatial factors on the assessment of impacts of pesticides on skylarks	http://dx.doi.org/10.1897/02-524a	Population models

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Topping, Cj; Sibly, Rm; Akcakaya, Hr; Smith, Gc; Crocker, Dr;	2005	Risk assessment of UK skylark populations using life-history and individual-based landscape models	http://dx.doi.org/10.1007/s10646-005-0027-3	Population models
Toropov, Aa; Benfenati, E;	2007	Optimisation of correlation weights of SMILES invariants for modelling oral quail toxicity	http://dx.doi.org/10.1016/j.ejmech.2006.11.018	QSARs
Toschik, Pc; Rattner, Ba; Mcgowan, Pc; Christman, Mc; Carter, Db; Hale, Rc; Matson, Cw; Ottinger, Ma;	2005	Effects of contaminant exposure on reproductive success of ospreys (Pandion haliaetus) nesting in Delaware River and bay, USA	http://dx.doi.org/10.1897/04-141R.1	Methods
Toumi, H; Boumaiza, M; Millet, M; Radetski, Cm; Camara, Bi; Felten, V; Masfaraud, Jf; Ferard, Jf;	2018	Combined acute ecotoxicity of malathion and deltamethrin to Daphnia magna (Crustacea, Cladocera): comparison of different data analysis approaches	http://dx.doi.org/10.1007/s11356-018-1909-2	Mixture models
Traas, Tp; Janse, Jh; Van Den Brink, Pj; Brock, Tcm; Aldenberg, T;	2004	A freshwater food web model for the combined effects of nutrients and insecticide stress and subsequent recovery	http://dx.doi.org/10.1897/02-524	Multi-species models
Trimble, Aj; Belden, Jb; Mueting, Sa; Lydy, Mj;	2010	Determining modifications to bifenthrin toxicity and sediment binding affinity from varying potassium chloride concentrations in overlying water	http://dx.doi.org/10.1016/j.chemosphere.2010.03.037	Mixture models
Tyne, W; Little, S; Spurgeon, Dj; Svendsen, C;	2015	Hormesis depends upon the life-stage and duration of exposure: Examples for a pesticide and a nanomaterial	http://dx.doi.org/10.1016/j.ecoenv.2015.05.024	DR and TKTD models
Vaj, C; Barmaz, S; Sorensen, Pb; Spurgeon, D; Vighi, M;	2011	Assessing, mapping and validating site-specific ecotoxicological risk for pesticide mixtures: A case study for small scale hot spots in aquatic and terrestrial environments	http://dx.doi.org/10.1016/j.ecoenv.2011.07.011	Mixture models
Van Dam, Jw; Uthicke, S; Beltran, Vh; Mueller, Jf; Negri, Ap;	2015	Combined thermal and herbicide stress in functionally diverse coral symbionts	http://dx.doi.org/10.1016/j.envpol.2015.05.013	Mixture models
Van Dam, Ra; Camilleri, C; Bayliss, P; Markich, Sj;	2004	Ecological risk assessment of tebuthiuron following application on tropical Australian wetlands	http://dx.doi.org/10.1080/10807030490887140	Multi-species models

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Van Den Brink, Pj; Baveco, Jm; Verboom, J; Heimbach, F;	2007	An individual-based approach to model spatial population dynamics of invertebrates in aquatic ecosystems after pesticide contamination	http://dx.doi.org/10.1897/07-022R.1	Landscape models
Van Den Brink, Pj; Blake, N; Brock, Tcm; Maltby, L;	2006	Predictive value of species sensitivity distributions for effects of herbicides in freshwater ecosystems	http://dx.doi.org/10.1080/10807030500430559	Multi-species models
Van Den Brink, Pj; Brown, Cd; Dubus, Ig;	2006	Using the expert model PERPEST to translate measured and predicted pesticide exposure data into ecological risks	http://dx.doi.org/10.1016/j.ecolmodel.2005.08.015	Multi-species models
Van Den Brink, Pj; Buijert-De Gelder, Dm; Brock, Tcm; Roessink, I; Focks, A;	2019	Exposure pattern-specific species sensitivity distributions for the ecological risk assessments of insecticides	http://dx.doi.org/10.1016/j.ecoenv.2019.05.022	DR and TKTD models
Van Den Brink, PJ; Roelsma, J; Van Nes, EH; Scheffer, M; Brock, TCM;	2002	PERPEST model, a case-based reasoning approach to predict ecological risks of pesticides	http://dx.doi.org/10.1002/etc.5620211132	Multi-species models
Venko, K; Drgan, V; Novic, M;	2018	Classification models for identifying substances exhibiting acute contact toxicity in honeybees (Apis mellifera)($)	http://dx.doi.org/10.1080/1062936X.2018.1513953	QSARs
Verro, R; Finizio, A; Otto, S; Vighi, M;	2009	Predicting Pesticide Environmental Risk in Intensive Agricultural Areas. II: Screening Level Risk Assessment of Complex Mixtures in Surface Waters	http://dx.doi.org/10.1021/es801858h	Mixture models
Verweij, F; Booij, K; Satumalay, K; Van Der Molen, N; Van Der Oost, R;	2004	Assessment of bioavailable PAH, PCB and OCP concentrations in water, using semipermeable membrane devices (SPMDs), sediments and caged carp	http://dx.doi.org/10.1016/j.chemosphere.2003.10.002	DR and TKTD models
Viaene, Kpj; De Laender, F; Van Den Brink, Pj; Janssen, Cr;	2013	Using additive modelling to quantify the effect of chemicals on phytoplankton diversity and biomass	http://dx.doi.org/10.1016/j.scitotenv.2013.01.046	Multi-species models
Vignardi, Cp; Muller, Eb; Tran, K; Couture, J; Means, -J; Murray, -J; Ortiz, C; Keller, -A; Sanchez, N; Lenihan, -H;	2020	Conventional and nano-copper pesticides are equally toxic to the estuarine amphipod Leptocheirus plumulosus	https://doi.org/10.1016/j.aquatox.2020.105481	DR and TKTD models

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authors	year	title	doi	model type
Villain, J; Lozano, S; Halm-Lemeille, Mp; Durrieu, G; Bureau, R;	2014	Quantile regression model for a diverse set of chemicals: application to acute toxicity for green algae	http://dx.doi.org/10.1007/s00894-014-2508-x	QSARs
Villaverde, Jj; Santin-Montanya, I; Sevilla-Moran, B; Alonso-Prados, Jl; Sandin-Espana, P;	2018	Assessing the Effects of Alloxydim Phototransformation Products by QSAR Models and a Phytotoxicity Study	http://dx.doi.org/10.3390/molecules23050993	QSARs
Villaverde, Jj; Sevilla-Morn, B; Lpez-Goti, C; Alonso-Prados, Jl; Sandn-Espaa, P;	2020	QSAR/QSPR models based on quantum chemistry for risk assessment of pesticides according to current European legislation	http://dx.doi.org/10.1080/1062936X.2019.1692368	QSARs
Wang, Gm; Edge, Wd; Wolff, Jo;	2001	Demographic uncertainty in ecological risk assessments	http://dx.doi.org/10.1016/S0304-3800(00)00378-1	Population models
Wang, M;	2013	From home range dynamics to population cycles: Validation and realism of a common vole population model for pesticide risk assessment	http://dx.doi.org/10.1002/ieam.1377	Population models
Wang, M; Grimm, V;	2010	Population models in pesticide risk assessment: lessons for assessing population-level effects, recovery, and alternative exposure scenarios from modeling a small mammal	http://dx.doi.org/10.1002/etc.151	Landscape models
Wang, Mc; Liu, Ss; Chen, F;	2014	Predicting the Time-dependent Toxicities of Three Triazine Herbicide Mixtures to V. qinghaiensis sp Q67 Using the Extended Concentration Addition Model	http://dx.doi.org/10.6023/A13101034	Mixture models
Wang, Sh; Li, Hz; You, J;	2019	Enantioselective degradation and bioaccumulation of sediment-associated fipronil in Lumbriculus variegatus: Toxicokinetic analysis	http://dx.doi.org/10.1016/j.scitotenv.2019.03.490	DR and TKTD models
Weber, D; Schaefer, D; Dorgerloh, M; Bruns, E; Goerlitz, G; Hammel, K; Preuss, Tg; Rattey, Ht;	2012	Combination of a higher-tier flow-through system and population modeling to assess the effects of time-variable exposure of isoproturon on the green algae Desmodesmus subspicatus and Pseudokirchneriella subcapitata	http://dx.doi.org/10.1002/etc.1765	Population models
Weber, D; Weyman, G; Fruhmann, T; Gagniarre, M; Minten, B; Memmert, U;	2019	Time-Variable Exposure Experiments in Conjunction with Higher Tier Population and Effect Modeling to Assess the Risk of Chlorotoluron to Green Algae	http://dx.doi.org/10.1002/etc.4544	Population models

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authors	year	title	doi	model type
Weijs, L; Yang, Rsh; Das, K; Covaci, A; Blust, R;	2013	Application of Bayesian Population Physiologically Based Pharmacokinetic (PBPK) Modeling and Markov Chain Monte Carlo Simulations to Pesticide Kinetics Studies in Protected Marine Mammals: DDT, DDE, and DDD in Harbor Porpoises	http://dx.doi.org/10.1021/es400386a	DR and TKTD models
Wilkinson, Ad; Collier, Cj; Flores, F; Negri, Ap;	2015	Acute and additive toxicity of ten photosystem-II herbicides to seagrass	http://dx.doi.org/10.1038/srep17443	Mixture models
Wu, X; Zhu, Lz;	2019	Prediction of organic contaminant uptake by plants: Modified partition-limited model based on a sequential ultrasonic extraction procedure	http://dx.doi.org/10.1016/j.envpol.2018.11.066	DR and TKTD models
Xiao, X; Li, C; Huang, Hm; Lee, Yp;	2019	Inhibition effect of natural flavonoids on red tide alga Phaeocystis globosa and its quantitative structure-activity relationship	http://dx.doi.org/10.1007/s11356-019-05482-7	QSARs
Xu, Yq; Liu, Ss; Lu, Bq; Wang, Zj;	2020	Acute toxicity dataset for QSAR modeling and predicting missing data of six pesticides	http://dx.doi.org/10.1016/j.dib.2020.105150	QSARs
Yan, Fy; He, Ws; Jia, Qz; Xia, Sq; Wang, Q;	2018	QSAR models for describing the toxicological effects of ILs against Candida albicans based on norm indexes	http://dx.doi.org/10.1016/j.chemosphere.2018.02.147	QSARs
Yang, Gl; Chen, C; Wang, Yh; Peng, Q; Zhao, Hy; Guo, Dm; Wang, Q; Qian, Yz;	2017	Mixture toxicity of four commonly used pesticides at different effect levels to the epigeic earthworm, Eisenia fetida	http://dx.doi.org/10.1016/j.ecoenv.2017.03.037	Mixture models
Yang, L; Wang, Yh; Chang, J; Pan, Yf; Wei, Rj; Li, Jz; Wang, Hl;	2020	QSAR modeling the toxicity of pesticides against Americamysis bahia	http://dx.doi.org/10.1016/j.chemosphere.2020.127217	QSARs
Yang, L; Wang, Yh; Hao, Wy; Chang, J; Pan, Yf; Li, Jz; Wang, Hl;	2020	Modeling pesticides toxicity to Sheepshead minnow using QSAR	http://dx.doi.org/10.1016/j.ecoenv.2020.110352	QSARs
Yu, Sy; Wages, M; Willming, M; Cobb, Gp; Maul, Jd;	2015	Joint effects of pesticides and ultraviolet-B radiation on amphibian larvae	http://dx.doi.org/10.1016/j.envpol.2015.09.029	Mixture models

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authors	**year**	**title**	**doi**	**model type**
Zhao, Js; Chen, By;	2016	Species sensitivity distribution for chlorpyrifos to aquatic organisms: Model choice and sample size	http://dx.doi.org/10.1016/j.ecoenv.2015.11.039	Multi-species models
Zhao, X; Zhang, Yl; Li, Sy;	2008	Ecological risk assessment of DDT accumulation in aquatic organisms of Taihu Lake, China	http://dx.doi.org/10.1080/10807030802235268	Multi-species models
Zhou, Xf; Sang, Wj; Liu, Ss; Zhang, Yl; Ge, Hl;	2010	Modeling and prediction for the acute toxicity of pesticide mixtures to the freshwater luminescent bacterium Vibrio qinghaiensis sp.-Q67	http://dx.doi.org/10.1016/S1001-0742(09)60126-1	Mixture models
Zubrod, Jp; Baudy, P; Schulz, R; Bundschuh, M;	2014	Effects of current-use fungicides and their mixtures on the feeding and survival of the key shredder Gammarus fossarum	http://dx.doi.org/10.1016/j.aquatox.2014.03.002	Mixture models

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authors	year	title	doi	model type
Abbas, R; Hayton, Wl;	1997	A physiologically based pharmacokinetic and pharmacodynamic model for paraoxon in rainbow trout	https//doi.org/10.1006/taap.1997.8168	DR and TKTD models
Add-My-Pet;	2021	Online database of DEB parameters, implied properties and referenced underlying data	NA	DR and TKTD models
Aldenberg, T; Jaworska, Js;	2000	Uncertainty Of The Hazardous Concentration and Fraction Affected For Normal Species Sensitivity Distributions	http://dx.doi.org/10.1006/Eesa.1999.1869	Multi-species models
Anzecc and Armcanz;	2000	Australian and New Zealand Guidelines For Fresh and Marine Water Quality	NA	Methods
Baas, J; Schotten, M; Plume, A; Cote, G; Karimi, R	2020	Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies	NA	NA
Baas, J; Van, Houte, B; Van, Gestel, C; Kooijman, S;	2007	Modeling The Effects Of Binary Mixtures On Survival In Time	https//doi.org/10.1897/06-437r.1	Mixture models
Balls, M;	2020	It's Time to Reconsider The Principles of Humane Experimental Technique	https://doi.org/10.1177/0261192920911339	Methods
Barnthouse, Lw;	1992	The role of models in ecological risk assessment: A 1990's perspective	https://doi.org/10.1002/etc.5620111207	Methods
Barry, S; Henderson, B;	2014	Burrlioz 2.0	NA	Multi-species models
Bartell, Sm; Nair, Sk; Galic, N; Brain, Ra;	2020	The Comprehensive Aquatic Systems Model (CASM): Advancing Computational Capability for Ecosystem Simulation	https://doi.org/10.1002/etc.4843	Multi-species models
Basant, N; Gupta, S; Singh, Kp;	2015	Predicting Toxicities of Diverse Chemical Pesticides in Multiple Avian Species Using Tree-Based QSAR Approaches for Regulatory Purposes	http://doi.org/10.1021/acs.jcim.5b00139	QSARs
Basant, N; Gupta, S; Singh, Kp;	2015	Predicting aquatic toxicities of chemical pesticides in multiple test species using nonlinear QSTR modeling approaches	https://doi.org/10.1016/j.chemosphere.2015.06.063	QSARs

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authors	year	title	doi	model type
Basant, N; Gupta, S; Singh, Kp;	2016	Modeling the toxicity of chemical pesticides in multiple test species using local and global QSTR approaches	http://dx.doi.org/10.1039/C5TX00321K	QSARs
Basic Report;	2021	Pesticides: a model that's costing us dearly	NA	NA
Baudrot, V; Charles, S;	2019	Recommendations To Address Uncertainties In Environmental Risk Assessment Using Toxicokinetics-Toxicodynamics Models	http://dx.doi.org/10.1101/356469	DR and TKTD models
Baudrot, V; Fernandez-De-Simon, J; Coeurdassier, M, Couval, G, Giraudoux, P, Lambin, X;	2020	Trophic transfer of pesticides: The fine line between predator–prey regulation and pesticide–pest regulation.	https://doi.org/10.1111/1365-2664.13578	DR and TKTD models
Belanger, Se; Carr, Gj;	2019	SSDs Revisited. II. A practical Considerations In The Development and Use Of Application Factors Applied To Species Sensitivity Distributions	http://dx.doi.org/10.1002/Etc.4444	Multi-species models
Belden, Jb; Gilliom, Rj; Lydy, Mj;	2007	How well can we predict the toxicity of pesticide mixtures to aquatic life?	https://doi.org/10.1002/ieam.5630030307	Mixture models
Belden, Jb; Lydy, Mj;	2006	Joint toxicity of chlorpyrifos and esfenvalerate to fathead minnows and midge larvae.	https://doi.org/10.1897/05-370R.1	DR and TKTD models
Benfenati, E; Manganaro, A; Gini, G;	2013	VEGA-QSAR: AI Inside a Platform for Predictive Toxicology	NA	QSARs
Benigni, Serafimova, R; Parra Morte, Jm; Battistelli, Cl; Bossa, C; Giuliani, A; Fioravanzo, E; Bassan, A; Gatnik, Mf; Rathman, J; Yang, C; Mostrag-Szlichtyng, A; Sacher, O; Tcheremenskaia, O;	2020	Evaluation of the applicability of existing (Q)SAR models for predicting the genotoxicity of pesticides and similarity analysis related with genotoxicity of pesticides for facilitating of grouping and read across: An EFSA funded project	https://doi.org/10.1016/j.yrtph.2020.104658	QSARs
Bhowmick, T; Sen, G; Mukherjee, Joydeep, And, Das, R;	2021	Assessing The Effect Of Herbicide Diuron On River Biofilm: A Statistical Model	http://dx.doi.org/10.1016/J.Chemosphere.2021.131104	DR and TKTD models

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authors	year	title	doi	model type
Bray, J; Miranda, A; Keely-Smith, A; Kaserzon, S, Elisei, G; Chou, A; Nichols, Sj; Thompson, R; Nugegoda, D, Kefford, Bj;	2021	Sub-organism (acetylcholinesterase activity), population (survival) and chemical concentration responses reinforce mechanisms of antagonism associated with malathion toxicity.	https://doi.org/10.1016/j.scitotenv.2021.146087	DR and TKTD models
Campbell, E; Palmer, M; Shao, Q; Warne, M; Wilson, D;	2000	Burrlioz: A Computer Program For Calculating Toxicant Trigger Values For The Anzecc and Armcanz Water Quality Guidelines	NA	Multi-species models
Campbell, K. R.; Bartell, S. M.; Shaw, J. L.;	2000	Characterizing aquatic ecological risks from pesticides using a diquat dibromide case study. II. Approaches using quotients and distributions.	https//doi.org/10.1002/etc.5620190331	Multi-species models
Carr, G. J.; Belanger, S. E.;	2009	SSDs Revisited: Part I—A Framework for Sample Size Guidance on Species Sensitivity Distribution Analysis.	https://doi.org/10.1002/etc.4445	Multi-species models
Caswell, H;	2001	Matrix Population Models	NA	Population models
Charles, S; Ratier, A, Baudrot, V, Multari, G, Siberchicot, A; Wu, D, Lopes, C;	2021	Taking full advantage of modelling to better assess environmental risk due to xenobiotics.	https://doi.org/10.1101/2021.03.24.436474v2	DR and TKTD models
Chaumot, A; Charles, S; Flammarion, P; Auger, P;	2003	Ecotoxicology and spatial modeling in population dynamics: An illustration with brown trout	https://doi.org/10.1002/ETC.5620220502	Population models
Chen, Sh; Pollino, Ca;	2012	Good Practice In Bayesian Network Modelling	https://doi.org/10.1016/j.envsoft.2012.03.012	Methods
Claudio Cacciatore, L; Verrengia Guerrero, NR; Cristina Cochon, A;	2018	Toxicokinetic and Toxicodynamic Studies Of Carbaryl Alone Or In Binary Mixtures With Azinphos Methyl In The Freshwater Gastropod Planorbarius Corneus	https://doi.org/10.1016/J.Aquatox.2018.04.005	DR and TKTD models
Conolly, R; Ankley, G; Cheng, W; Mayo, M; Miller, D; Perkins, E; Villeneuve, D; Watanabe, K;	2017	Quantitative adverse outcome pathways and their application to predictive toxicology	https://doi.org/10.1021/acs.est.6b06230	Population models

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authors	year	title	doi	model type
David, V; Joachim, S; Tebby, C; Porcher, Jm; Beaudouin, R;	2019	Modelling population dynamics in mesocosms using an individual-based model coupled to a bioenergetics model	https//doi.org/10.1016/j.ecolmodel.2019.02.008	Population models
Delignette-Muller, Ml; Lopes, C; Veber, P; Charles, S;	2014	Statistical Handling Of Reproduction Data For Exposure-Response Modeling.	http://dx.doi.org/10.1021/Es502009r	DR and TKTD models
Douziech, M; Ragas, Amj; Van Zelm, R; Oldenkamp, R; Jan Hendriks, A; King, H; Oktivaningrum, R; Huijbregts, Maj;	2020	Reliable and representative in silico predictions of freshwater ecotoxicological hazardous concentrations	https://doi.org/10.1016/j.envint.2019.105334	QSARs
Drgan, C; Zuperl, S; Vracko, M; Como, F; Novic, M;	2016	Robust modelling of acute toxicity towards fathead minnow (Pimephales promelas) using counter-propagation artificial neural networks and genetic algorithm	https://doi.org/10.1080/1062936X.2016.1196388	QSARs
EFSA PPR Panel;	2015	Scientific Opinion addressing the state of the science on risk assessment of plant protection products for non-target terrestrial plants	https//doi.org/10.2903/j.efsa.2014.3800	Methods
EFSA PPR Panel;	2014	Scientific Opinion On Good Modelling Practice In The Context Of Mechanistic Effect Models For Risk Assessment Of Plant Protection Products	http://dx.doi.org/10.2903/j.efsa.2014.3589	Methods
EFSA PPR Panel;	2013	Guidance On Tiered Risk Assessment For Plant Protection Products For Aquatic Organisms In Edge-of-field Surface Waters	https://doi.org/10.2903/j.efsa.2013.3290	Methods
EFSA PPR Panel;	2013	Guidance On The Risk Assessment Of Plant Protection Products On Bees (Apis Mellifera, Bombus Spp. and Solitary Bees)	https://doi.org/10.2903/j.efsa.2013.3295	Methods
EFSA PPR Panel;	2015	Scientific Opinion Addressing The State Of The Science On Risk Assessment Of Plant Protection Products For Non-target Arthropods	https://doi.org/10.2903/j.efsa.2015.3996	Methods
EFSA PPR Panel;	2015	Scientific Opinion On The Effect Assessment For Pesticides On Sediment Organisms In Edge-of-field Surface Water	https://doi.org/10.2903/j.efsa.2015.4176	Methods

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authors	year	title	doi	model type
EFSA PPR Panel;	2015	Statement On The Suitability Of The BEEHAVE Model For Its Potential Use In A Regulatory Context and For The Risk Assessment Of Multiple Stressors In Honeybees At The Landscape Level	https://doi.org/10.2903/j.efsa.2015.4125	Methods
EFSA Scientific Committee	2016	Guidance to develop specific protection goals options for environmental risk assessment at EFSA, in relation to biodiversity and ecosystem services	https://doi.org/10.2903/j.efsa.2016.4499	Methods
EFSA, Scientific Committee;	2018	Guidance On Uncertainty Analysis In Scientific Assessments	http://dx.doi.org/10.2903/j.efsa2018.5123	Methods
EFSA;	2009	Risk Assessment For Birds and Mammals	https://doi.org/10.2903/j.efsa.2009.1438	Methods
Eriksson, L;Jaworska, J; Worth, Ap; Cronin, Mtd; Mcdowell, Rm; Gramatica, P;	2003	Methods for reliability and uncertainty assessment and for applicability evaluations of classification- and regression-based QSARs	https://doi.org/10.1289/ehp.5758	QSARs
Etterson, M;	2020	Technical Manual: Ssd Toolbox Version 1.0	NA	Multi-species models
European Commission;	2003	Technical Guidance Document on Risk Assessment in support of Commission Directive 93/67/EEC on Risk Assessment for new notified substances, Commission Regulation	https://op.europa.eu/s/qsgS	Methods
European Commission;	2017	Scientific advice on Guidance document 27: Technical guidance for deriving environmental quality standards	NA	Methods
European Commission;	2002	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy	NA	NA
European Commission;	2009	Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC	NA	NA

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authors	year	title	doi	model type
European Commission;	2020	Evaluation Du Réglement (CE) Numéro 1107/2009 Concernant La Mise Sur Le Marche Des Produits Phytopharmaceutiques Et Du Réglement (Ce) Numéro 396/2005 Concernant Les Limites Maximales Applicables Aux Residus De Pesticides	NA	NA
European Commission;	2002	Guidance Document on Terrestrial Ecotoxicology Under Council Directive 91/414/EEC	NA	NA
European Food Safety Authority;	2017	EFSA Guidance Document For Predicting Environmental Concentrations Of Active Substances Of Plant Protection Products and Transformation Products Of These Active Substances In Soil	http://dx.doi/org/10.2903/j.efsa.2017.4982	Methods
Forbes, Ve; Calow, P;	2002	Species Sensitivity Distributions Revisited: A Critical Appraisal	http://dx.doi.org/10.1080/10807030290879781	Multi-species models
Forbes, Ve; Calow, P; Sibly, Rm;	2001	Are Current Species Extrapolation Models A Good Basis For Ecological Risk Assessment?	https//doi.org/10.1002/ETC.5620200227	Multi-species models
Forbes, Ve; Hommen, U; Thorbek, P; Heimbach, F; Van, Den, Brink, Pj; Wogram, J; Thulke, Hh; Grimm, V;	2009	Ecological models in support of regulatory risk assessments of pesticides: developing a strategy for the future	https://doi.org/10.1897/IEAM_2008-029.1	Population models
Forfait-Dubuc, C; Charles, S; Billoir, E; And, Delignette-Muller, Ml;	2012	Survival Data Analyses In Ecotoxicology: Critical Effect Concentrations, Methods and Models. What Should We Use?	http://dx.doi.org/10.1007/S10646-012-0860-0	DR and TKTD models
Fox, Dr, Dam, Ra, Fisher, R, Batley, Ge, Tillmanns, Ar, Thorley, J, Schwarz, Cj, Spry, Dj, Mctavish, K;	2020	Recent developments in SSD Modeling	https://doi.org/10.1002/etc.4925	DR and TKTD models

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authors	year	title	doi	model type
Galic, N; Baveco, H; Hengeveld, Gm; Thorbek, P; Bruns, E; Van den Brink, Pj;	2012	Simulating population recovery of an aquatic isopod: Effects of timing of stress and landscape structure	https//doi.org/10.1016/j.envpol.2011.12.024	Population models
Gegear, Rj; Heath, Kn, Ryder, Ef;	2021	Modeling scale up of anthropogenic impacts from individual pollinator behavior to pollination systems.	https://doi.org/10.1111/cobi.13754	DR and TKTD models
Gestin, O; Lacoue-Labarthe, T; Coquery, M; Delorme, N; Garnero, L; Dherret, L; Geffard, O; Lopes, C;	2021	One and Multi-Compartments Toxico-Kinetic Modeling To Understand Metals ' Organotropism and Fate In Gammarus Fossarum	http://dx.doi.org/10.1016/J.Envint.2021.106625	DR and TKTD models
Giddings, Jm; Hall, Lw; Solomon, Kr;	2000	Ecological risks of diazinon from agricultural use in the Sacramento-San Joaquin River Basins, California	https//doi.org/10.1111/0272-4332.205052	Multi-species models
Giddings, Jm; Wirtz, J; Campana, D; Dobbs, M;	2019	Derivation of combined species sensitivity distributions for acute toxicity of pyrethroids to aquatic animals.	https://doi.org/10.1007/s10646-019-02018-0	Multi-species models
Goldberg, A;	2009	The Principles of Humane Experimental Technique: Is It Relevant Today?	https://doi.org/10.14573/altex.2010.2.149	Methods
Gramatica, P; Sangion, A;	2016	A Historical Excursus on the Statistical Validation Parameters for QSAR Models: A Clarification Concerning Metrics and Terminology	https://doi.org/10.1021/acs.jcim.6b00088	QSARs
Grech, A, Tebby, C, Brochot, C, Bois, F; Bado-Nilles, A; Dorne, Jlcm; Quignot, N, Beaudouin, R;	2019	Generic physiologically-based toxicokinetic modelling for fish: Integration of environmental factors and species variability.	https://doi.org/10.1016/j.scitotenv.2018.09.163	DR and TKTD models
Grech, A; Brochot, C; Dorne, Jlcm; Quignot, N; Bois, F; Beaudouin, R;	2017	Toxicokinetic models and related tools in environmental risk assessment of chemicals.	https://doi.org/10.1016/j.scitotenv.2016.10.146	DR and TKTD models

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authors	year	title	doi	model type
Grimm, V, Johnston, Asa, Forbes, Ve, Thorbek, P;	2020	Three questions to ask before using model outputs for decision support.	https://doi.org/10.1038/s41467-020-17785-2	DR and TKTD models
Grist, Ep; O'hagan, A; Crane, Mark, And, Sorokin, N; Sims, I; Whitehouse, P;	2006	Bayesian and Time-Independent Species Sensitivity Distributions For Risk Assessment Of Chemicals	https://doi.org/10.1021/es050871e	Multi-species models
Hamadache, M; Benkortbi, O; Hanini, S; Amrane, A;	2018	QSAR modeling in ecotoxicological risk assessment: application to the prediction of acute contact toxicity of pesticides on bees (Apis mellifera L.)	https://doi.org/10.1007/s11356-017-0498-9	QSARs
Hanratty, Mp; Liber, K;	1996	Evaluation of model predictions of the persistence and ecological effects of diflubenzuron in a littoral ecosystem	https://doi.org/10.1016/0304-3800(95)00149-2	Multi-species models
Heringa, M; Brandon, E; Bessems, J; Bos, P;	2013	Integration of toxicokinetics and toxicodynamics testing essential for risk assessment.	NA	DR and TKTD models
Hommen, U; Poethke, Hj; Dülmer, U; Ratte, Ht;	1993	Simulation models to predict ecological risk of toxins in freshwater systems	https://doi.org/10.1006/jmsc.1993.1039	Population models
Iwasaki, Y; Kotani, K; Kashiwada, S; Masunaga, S;	2015	Does The Choice Of Noec Or Ec10 Affect The Hazardous Concentration For 5% Of The Species?	http://dx.doi.org/10.1021/Acs.Est.5b02069	Multi-species models
Jager, T; Albert, C; Preuss, T; Ashauer, R;	2011	General Unified Threshold Model Of Survival-A Toxicokinetic-Toxicodynamic Framework For Ecotoxicology	https://doi.org/10.1021/es103092a	DR and TKTD models
Jager, T; Ashauer, R;	2018	Modelling Survival Under Chemical Stress. A Comprehensive Guide To The Guts Framework	NA	DR and TKTD models
Jager, T; Barsi, A; Ducrot, V;	2013	Hormesis On Life-History Traits: Is There Such Thing As A Free Lunch?	http://dx.doi.org/10.1007/S10646-012-1022-0	DR and TKTD models
Jeremiah, E; Sisson, Sa; Sharma, Ashish, And, Marshall, L;	2012	Efficient Hydrological Model Parameter Optimization With Sequential Monte Carlo Sampling	https://doi.org/10.1016/j.envsoft.2012.07.001	Methods

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authors	year	title	doi	model type
Jia, Qz; Zhao, Yp; Yan, Fy; Wang, Q;	2018	QSAR model for predicting the toxicity of organic compounds to fathead minnow	http://dx.doi:10.1007/s11356-018-3434-8.	QSARs
Joncour, B, Nelson, Wa;	2021	Sublethal concentration of insecticide amplifies interference competition in a tortrix moth.	https://doi.org/10.1016/j.ecoenv.2021.112324	DR and TKTD models
Jonker, Mj; Svendsen, C; Bedaux, Jj; Bongers, M; Kammenga, Je;	2005	Significance testing of synergistic/antagonistic, dose level-dependent, or dose ratio-dependent effects in mixture dose-response analysis.	http://doi.org/10.1897/04-431r.1	Mixture models
Kaikkonen, L; Parviainen, T; Rahikainen, M; Uusitalo, L; Lehikoinen, A;	2020	Bayesian Networks In Environmental Risk Assessment: A Review	http://dx.doi.org/10.1002/ieam.4332	Multi-species models
Kienzler, A; Barron, Mg; Belanger, Se; Beasley, A; Embry, Mr;	2017	Mode of Action (MOA) Assignment Classifications for Ecotoxicology: An Evaluation of Approaches	https://doi.org/10.1021/acs.est.7b02337	QSARs
Kon Kam King, G; Veber, P; Charles, S; Delignette-Muller, Ml;	2014	Mosaic-SSD: A New Web Tool For Species Sensitivity Distribution To Include Censored Data By Maximum Likelihood.	http://dx.doi.org/10.1002/Etc.2644	Multi-species models
Lepper, P;	2002	Towards the Derivation of Quality Standards for Priority Substances in the Context of the Water Framework Directive. Identification of quality standards for priority substances in the field of water policy	NA	Methods
Lilienblum, W; Dekant, W; Foth, H; Gebel, T; Hengstler, J; Kahl, R; Kramer, P; Schweinfurth, H; Wollin, K;	2008	Alternative methods to safety studies in experimental animals: Role in the risk assessment of chemicals under the new European Chemicals Legislation (REACH)	http://dx.doi.org/10.1007/s00204-008-0279-9	Methods
Liu, C; Bednarska, Aj; Sibly, Rm; Murfitt, Rc; Edwards, P; Thorbek, P;	2014	Incorporating toxicokinetics into an individual-based model for more realistic pesticide exposure estimates: A case study of the wood mouse	http://dx.doi.org/10.1016/j.ecolmodel.2013.09.007	DR and TKTD models

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authors	year	title	doi	model type
Martin, Tm; Grulke, Cm; Young, Dm; Russom, Cl; Wang, Ny; Jackson, Cr; Barron, Mg;	2013	Prediction of Aquatic Toxicity Mode of Action Using Linear Discriminant and Random Forest Models	https://doi.org/10.1021/ci400267h	QSARs
Mebane, Ca; Sumpter, Jp; Fairbrother, A; Augspurger, Tp; Canfield, Tj; Goodfellow, Wl; Guiney, Pd; Lehuray, A; Maltby, L; Mayfield, Db; Others;	2019	Scientific integrity issues in Environmental Toxicology and Chemistry: Improving research reproducibility, credibility, and transparency	https://doi.org/10.1002/ieam.4119	NA
Mentzel, S, Grung, M, Tollefsen, Ke, Stenrod, M, Petersen, K, Moe, Aj;	2021	Development of a Bayesian network for probabilistic risk assessment of pesticides.	https://doi.org/10.1101/2021.05.20.444913	DR and TKTD models
Miller, Th; Gallidabino, Md; Macrae, Jl; Owen, Sf; Bury, Nr; Barron, Lp;	2019	Prediction of bioconcentration factors in fish and invertebrates using machine learning	https://doi.org/10.1016/j.scitotenv.2018.08.122	QSARs
Mit, C; Tebby, C; Gueganno, T; Bado-Nilles, A; Beaudouin, R;	2021	Modeling acetylcholine esterase inhibition resulting from exposure to a mixture of atrazine and chlorpyrifos using a physiologically-based kinetic model in fish.	https://doi.org/10.1016/j.scitotenv.2020.144734	DR and TKTD models
Mombelli, E; P, Pandard, P;	2021	Evaluation of the OECD QSAR toolbox automatic workflow for the prediction of the acute toxicity of organic chemicals to fathead minnow	https://doi.org/10.1016/j.yrtph.2021.104893	QSARs
Mombelli, E; Pery, Arr;	2011	A Linear Model to Predict Chronic Effects of Chemicals on Daphnia magna	https://doi.org/10.1007/s00128-011-0393-x	QSARs
Mombelli, E; Ringeissen, S;	2009	The computational prediction of toxicological effects in regulatory contexts Current use and future potential of (Q)SAR tools	NA	QSARs
More, Sj; Auteri, D; Rortais, A; Pagani, S;	2021	EFSA Is Working To Protect Bees and Shape The Future Of Environmental Risk Assessment	https://doi.org/10.2903/j.efsa.2021.e190101	Methods

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More, Sj; Bampidis, V; Benford, D; Bennekou, Sh, Bragard, C; Halldorsson, Ti; Hernandez-Jerez, Af; Koutsoumanis, K; Naegeli, H; Schlatter, Jr; Silano, V; Nielsen, Ss; Schrenk, D; Turck, D; Younes, M; Benfenati, E; Castle, L; Cedergreen, N; Hardy, A; Laskowski, R; Leblanc, Jc; Kortenkamp, A; Ragas, A; Posthuma, L; Svendsen, C; Solecki, R; Testai, E; Dujardin, B; Kass, Gen; Manini, P; Jeddi, Mz; , Dorne, Jlcm; Hogstrand, C;	2019	Guidance on harmonised methodologies for human health, animal health and ecological risk assessment of combined exposure to multiple chemicals.	https://doi.org/10.2903/j.efsa.2019.5634	Mixture models
Nature, Index;	2020	The ten leading countries in natural-sciences research	https://doi.org/10.1038/d41586-020-01231-w	Methods
Nowierski, Rm; Zeng, Z; Jaronski, S; Delgado, F; Swearingen, W;	1996	Analysis and modeling of time-dose-mortality of Melanoplus sanguinipes, Locusta migratoria migratorioides, and Schistocerca gregaria (Oorthoptera: Acrididae) from Beauveria, Metarhizium, and Paecilomyces isolates from Madagascar	https://doi.org/10.1006/jipa.1996.0039	DR and TKTD models

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Ockleford, C; Adriaanse, P; Berny, P;Brock, T; Duquesne, S; Grilli, S; Hernandez-Jerez, Af; Hougaard Bennekou, S, Klein, M; Kuhl, T; Laskowski, R; Machera, K; Pelkonen, O; Pieper, S; Stemmer, M; Sundh, I; Teodorovic, I; Tiktak, A; Topping, Cj; Wolterink, G; Craig, P; De Jong, F; Manachini, B; Sousa, P; Swarowsky, K; Auteri, D; Arena, M; Rob, S;	2017	Scientific Opinion addressing the state of the science on risk assessment of plant protection products for in-soil organisms.	https://doi.org/10.2903/j.efsa.2017.4690	DR and TKTD models
OECD;	2012	OECD Guidelines For The Testing Of Chemicals	http://dx.doi.org/10.1787/9789264185296-En	Methods
OECD;	2016	Test No. 243: Lymnaea Stagnalis Reproduction Test	http://dx.doi.org/10.1787/9789264264335-En	Methods
OECD;	2014	Guidance Document on the Validation of (Quantitative) Structure-Activity Relationship [(Q)SAR] Models	https://doi.org/10.1787/9789264085442-en.	QSARs
Oreskes, N, Shrader-Frechette, K, Belitz, K;	1994	Verification, validation, and confirmation of numerical models in the earth sciences.	https://doi.org/10.1126/science.263.5147.641	DR and TKTD models
Park, R; Clough, J; Wellman, M;	2008	Aquatox: Modeling Environmental Fate and Ecological Effects In Aquatic Ecosystems	https://doi.org/10.1016/j.ecolmodel.2008.01.015	Multi-species models
Pavan, M; Netzeva, Tl; Worth, Ap;	2008	Review of Literature-Based Quantitative Structure–Activity Relationship Models for Bioconcentration	https://doi.org/10.1002/qsar.200710102	QSARs

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Pelosi, C; Bertrand, C; Daniele, G; Coeurdassier, M; Benoit, P; Nélieu, S; Lafay, F; Bretagnolle, V; Gaba, S; Vulliet, E; Fritsch, C;	2021	Residues of currently used pesticides in soils and earthworms: a silent threat?	http://doi.org/10.1016/j.agee.2020.107167	Mixture models
Pery, Arrr; Devillers, J; Brochot, C; Mombelli, E; Palluel, O; Piccini, B; Brion, F; Beaudoin, R;	2014	A physiologically based toxicokinetic model for the zebrafish Danio rerio	https//doi.org/10.1021/es404301q	DR and TKTD models
Posthuma, L, De Zwart, D;	2006	Predicted effects of toxicant mixtures are confirmed by changes in fish species assemblages in Ohio, USA, rivers.	https://doi.org/10.1897/05-305r.1	Mixture models
Posthuma, L; Suter, Ii, Gw; Traas, Tp;	2002	Species Sensitivity Distributions In Ecotoxicology	https://doi.org/10.1201/9781420032314	Multi-species models
Posthuma, L; Van Gils, J; Zijp, Mc; Van De Meent, D; De Zwart, D;	2019	Species sensitivity distributions for use in environmental protection, assessment, and management of aquatic ecosystems for 12 386 chemicals.	https://doi.org/10.1002/etc.4373	Multi-species models
Preisler, Hk; Robertson, Jl;	1989	Analysis of Time-Dose-Mortality Data	https://doi.org/10.1093/jee/82.6.1534	DR and TKTD models
Ratier, A; Lopes, C; Multari, G; Mazerolles, V; Carpentier, P; Charles, S;	2021	New Perspectives On The Calculation Of Bioaccumulation Metrics For Active Substances In Living Organisms	http://dx.doi.org/10.1101/2020.07.07.185835	DR and TKTD models
Ritz, C; Streibig, Jc, Kniss, A;	2021	How to use statistics to claim antagonism and synergism from binary mixture experiments.	https://doi.org/10.1002/ps.6348	DR and TKTD models
Roesch, A,Gottard, M;Vignet, C; Cedergreen, N; Hollender, J;	2017	Mechanistic Understanding Of The Synergistic Potential Of Azole Fungicides In The Aquatic Invertebrate Gammarus Pulex	http://dx.doi.org/10.1021/Acs.Est.7b03088	DR and TKTD models

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authors	year	title	doi	model type
Rose, Ka; Swartzman, Gl; Kindig, Ac; Taub, Fb;Van Straalen, Nm; Denneman, Ca;	1988	Stepwise Iterative Calibration of a Multi-Species Phytoplankton Zooplankton Simulation-Model Using Laboratory Data	https://doi.org/10.1016/0304-3800(88)90089-0	Multi-species models
Royle, Ja;	2004	N-Mixture Models for Estimating Population Size from Spatially Replicated Counts.	https://doi.org/10.1111/j.0006-341X.2004.00142.x	DR and TKTD models
Russel, W; Burch;	1959	The principles of Humane Experimental Technique	NA	Methods
Russom, Cl; Bradbury, Sp; Broderius, Sj; Hammermeister, De; Drummond, Ra;	1997	Predicting modes of toxic action from chemical structure: Acute toxicity in the fathead minnow (Pimephales promelas)	https://doi.org/10.1002/etc.5620160514	QSARs
Schipper, Am; Posthuma, L; De Zwart, D, Huijbregts, Maj;	2014	Deriving field-based species sensitivity distributions (S-SDMs).	https://doi.org/10.1021/es503223k	Multi-species models
Schmolke, A; Bartell, Sm; Roy, C; Desmarteau, D; Moore, A; Cox, Mj; Maples-Reynolds, Nl; Galic, N; Brain, R;	2021	Applying a Hybrid Modeling Approach to Evaluate Potential Pesticide Effects and Mitigation Effectiveness for an Endangered Fish in Simulated Oxbow Habitats	https//doi.org/10.1002/etc.5144	DR and TKTD models
Schneckener, S; Preuss, Tg; Kuepfer, L; Witt, J;	2020	A Workflow To Build PBTK Models For Novel Species	http://dx.doi.org/10.1007/S00204-020-02922-Z	DR and TKTD models
Sorensen, H; Cedergreen, N; Skovgaard, Lm; Streibig, Jc;	2007	An isobole-based statistical model and test for synergism/antagonism in binary mixture toxicity experiments.	https://doi.org/10.1007/s10651-007-0022-3	Mixture models
Sorgog, K; Kamo, M;	2019	Quantifying the precision of ecological risk: Conventional assessment factor method vs. species sensitivity distribution method.	https://doi.org/10.1016/j.ecoenv.2019.109494	DR and TKTD models
Stephenson, G; Ferris, I;, Holland, P; Nordberg, M;	2006	Glossary of terms relating to pesticides (IUPAC Recommendations 2006)	https://doi.org/10.1351/pac200678112075	Methods

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authors	year	title	doi	model type
Strauss, T; Gabsi, F; Hammers-Wirtz, M; Thorbek, P; Preuss, T;	2017	The power of hybrid modelling: An example from aquatic ecosystems.	https://doi.org/10.1016/j.ecolmodel.2017.09.019	Population models
Streibig, J.C; Jensen, J.E;	2000	Actions of herbicides in mixtures.	NA	Mixture models
Sybertz, A; Ross-Nickoll, M; Schaffer, A; Scholz-Starke, B; Daniels, B; Ottermanns, R;	2020	Mitas: A Model For Assessing The Time-Dependent Risk Of Sequential Applications Of Pesticides For Soil Organisms By Consideration Of Exposure, Degradation and Mixture Toxicity	http://dx.doi.org/10.1016/J.Mex.2019.12.004	Mixture models
Tan, YM; Barton, HA; Boobis, A; Brunner, R; Clewell, H; Cope R; Dawson, J; Domoradzki, J; Egeghy, P; Gulati, P; Ingle, B; Kleinstreuer, N; Lowe, K; Lowit, A; Mendez E; Miller, D; Minucci, J; Nguyen, J; Paini, A; Perron, M; Phillips, K; Qian, H; Ramanarayanan, T; Sewell, F; Villanueva, P; Wambaugh, J; Embry, M;	2021	Opportunities and challenges related to saturation of toxicokinetic processes: Implications for risk assessment	https://doi.org/10.1016/j.yrtph.2021.105070	Methods
Technical Guidance Document	2011	Technical Guidance for Deriving Environmental Quality Standards. Common Implementation Strategy for the Water Framework Directive (2000/60/EC). Guidance Document No. 27. Prepared by EU, Member States and stakeholders	NA	Methods
Terry, C; Rasoulpour, R; Saghir, S; Marty, S; Gollapudi, B; Billington, R;	2014	Application of a novel integrated toxicity testing strategy incorporating '3R' principles of animal research to evaluate the safety of a new agrochemical sulfoxaflor.	https://doi.org/10.3109/10408444.2014.910753	DR and TKTD models
Topping, Cj; Hansen, Ts; Jepsen, Ts; Nikolajsen, F; Odderskaer, P;	2003	Almass, An Agent-Based Model For Animals In Temperate European Landscapes	NA	Population models

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authors	year	title	doi	model type
US EPA;	2018	CADDIS SSD generator	NA	Multi-species models
US EPA;	2000	Stressor identification guidance document.	NA	DR and TKTD models
Van Straalen, NM; Denneman CA	1989	Ecotoxicological evaluation of soil quality criteria	https://doi.org/10.1016/0147-6513(89)90018-3	Multi-species models
Van Vlaardingen, P; Traas, T; Wintersen, A; Aldenberg, T;	2004	A Program To Calculate Hazardous Concentrations And Fraction Affected, Based On Normally Distributed Toxicity Data	NA	Multi-species models
Verdonck, F; Jaworska, J; Thas, Olivier, And, Vanrolleghem, Pa;	2000	Uncertainty Techniques In Environmental Risk Assessment	NA	Methods
Wilkinson, Md; Dumontier, M; Aalbersberg, Ij; Appleton, G; Axton, M; Baak, A; Blomberg, N; Boiten, Jw; Da, Silva, Santos, Lb; Bourne, Pe; Others;	2016	The FAIR Guiding Principles for scientific data management and stewardship	https//doi.org/10.1038/sdata.2016.18	Methods
Zimmer, El; Preuss, Tg; Norman, S; Minten, B; Ducrot, V;	2018	Modelling effects of time-variable exposure to the pyrethroid beta-cyfluthrin on rainbow trout early life stages	https://doi.org/10.1186/s12302-018-0162-0	DR and TKTD models