

Supplementary Information

Contamination characteristics, spatial distribution and ecological-health risk assessment of legacy and current-use pesticides: a case study in the Beibu Gulf

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Table S1

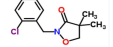
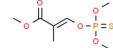
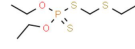
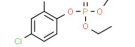
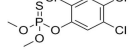
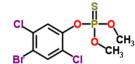
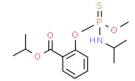
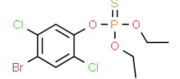
Sampling locations in this study and the water quality parameters

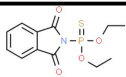
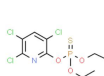
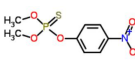
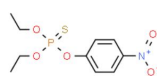
Sites	Longitude (°)	Latitude (°)	Oils (mg/L)	TOC (%)
B08	108.30	20.81	0.01	0.83
B10	108.33	21.07	0.01	0.79
B12	108.33	21.28	0.00	0.80
B15	108.55	20.91	0.01	0.99
B17	108.57	21.09	0.00	0.63
B19	108.62	21.31	0.00	0.49
B22	108.77	20.89	0.02	0.90
B24	108.82	21.05	0.02	0.70
B26	108.87	21.23	0.00	0.77
B29	109.08	20.90	0.00	0.75
B32	109.28	21.19	0.02	0.61
B35	109.30	20.84	0.00	0.53
B38	109.47	21.11	0.01	0.07
B40	109.55	21.29	0.00	0.41
L19	109.40	21.42	0.01	0.08
L34	109.10	21.50	0.05	0.74
L52	108.68	21.65	0.03	0.00
L69	108.40	21.53	0.00	0.33
L79	108.10	21.44	0.00	1.21

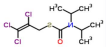
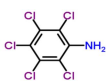
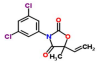
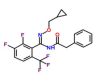
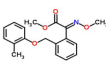
Table S2

Detailed information of the 36 investigated pesticides.

Compound	Molecular Formula	CAS No.	Log Kow ^a	Molecular Weight	Application	Structure
Organochlorine Pesticides						
Dichlobenil	C ₇ H ₃ Cl ₂ N	1194-65-6	2.79	172.02	Herbicides	
α -HCH	C ₆ H ₆ Cl ₆	319-84-6	3.99	296.9	Pesticides	
Hexachlorobenzene	C ₆ Cl ₆	118-74-1	4.89	284.78	Bactericide	
β -HCH	C ₆ H ₆ Cl ₆	319-85-7	3.99	290.83	Bactericide	
γ -HCH	C ₆ H ₆ Cl ₆	58-89-9	3.99	290.83	Bactericide	
δ -HCH	C ₆ H ₆ Cl ₇	319-86-8	3.99	290.83	Bactericide	
<i>o,p'</i> -DDE	C ₁₄ H ₈ Cl ₄	3424-82-6	6.22	318.03	Bactericide	
<i>p,p'</i> -DDE	C ₁₄ H ₈ Cl ₄	72-55-9	6.37	318.03	Bactericide	
<i>p,p'</i> -DDD	C ₁₄ H ₁₀ Cl ₄	72-54-8	5.39	320.04	Bactericide	
<i>o,p'</i> -DDT	C ₁₄ H ₉ Cl ₅	789-02-6	5.92	354.48	Bactericide	
<i>p,p'</i> -DDT	C ₁₄ H ₉ Cl ₅	50-29-3	5.92	354.48	Bactericide	

Chlorfenoson	C ₁₂ H ₈ Cl ₂ O ₃ S	80-33-1	4.75	303.16	Acaricide	
Clomazone	C ₁₂ H ₁₄ ClNO ₂	81777-89-1	2.17	239.7	Herbicides	
β-Endosulfan	C ₉ H ₆ Cl ₆ O ₃ S	33213-65-9	3.13	406.9	Pesticides	
Organophosphorus pesticides						
Methacrifos	C ₇ H ₁₃ O ₅ PS	62610-77-9	0.83	240.21	Acaricide/Pesticides	
Phorate	C ₇ H ₁₇ O ₂ PS ₃	298-02-2	3.67	260.38	Nematocide/Acaricide/Pesticides	
Dichlofenthion	C ₁₀ H ₁₃ Cl ₂ O ₃ PS	97-17-6	5.12	315.15	Nematocide/Pesticides	
Fenchlorphos	C ₈ H ₈ ClO ₃ PS	299-84-3	4.84	321.55	Pesticides	
Bromophos	C ₈ H ₈ BrCl ₂ O ₃ PS	2104-96-3	5.07	365.99	Acaricide/Pesticides	
Isofenphos-methyl	C ₁₄ H ₂₂ NO ₄ PS	99675-03-3	3.59	331.37	Pesticides	
Bromophos-ethyl	C ₁₀ H ₁₂ BrCl ₂ O ₃ PS	4824-78-6	6.13	394.04	Acaricide/Pesticides	

Ditalimfos	C ₁₂ H ₁₄ NO ₄ PS	5131-24-8	3.48	299.28	Bactericide	
Isofenphos-oxon	C ₁₅ H ₂₄ NO ₃ P	31120-85-1	3.07	329.33	Pesticides	
Chlorthiophos	C ₁₁ H ₁₅ Cl ₂ O ₃ PS ₂	60238-56-4	4.34	361.2	Acaricide	
Terbufos	C ₉ H ₂₁ O ₂ PS ₃	13071-79-9	4.37	288.43	Pesticides	
Diazinon	C ₁₂ H ₂₁ N ₂ O ₃ PS	333-41-5	3.81	304.34	Acaricide/Pesticides/ Nematocide	
Chlorpyrifos	C ₉ H ₁₁ Cl ₃ NO ₃ PS	2921-88-2	4.77	350.58	Acaricide/ Pesticides	
Parathion methyl	C ₈ H ₁₀ NO ₅ PS	298-00-0	2.78	263.20	Acaricide/ Pesticides Antibacterial/Drug fungicide	
Malathion	C ₁₀ H ₁₉ O ₆ PS ₂	121-75-5	2.92	330.35	Acaricide/ Pesticides	
Parathion	C ₁₀ H ₁₄ NO ₅ PS	56-38-2	3.84	291.26	Acaricide/ Pesticides/Avicide	
Organic amine pesticides						
Profluralin	C ₁₄ H ₁₆ F ₃ N ₃ O ₄	26399-36-0	5.25	347	Herbicides	

Triallate	C ₁₀ H ₁₆ Cl ₃ NOS	2303-17-5	6.18	304.7	Herbicides	
Pentachloroaniline	C ₆ H ₂ Cl ₅ N	527-20-8	4.86	265.3	Bactericide	
Vinclozolin	C ₁₂ H ₉ Cl ₂ NO ₃	50471-44-8	3.19	286.11	Bactericide	
Cyflufenamid	C ₂₀ H ₁₇ F ₅ N ₂ O ₂	180409-60-3	5.07	412.35	Bactericide	
Kresoxim-methyl	C ₁₈ H ₁₉ NO ₄	143390-89-0	4.34	313.3	Bactericide	

Note: "a" from <http://www.chemspider.com/Default.aspx>

Table S3

Retention time, GC-MS/MS quantitative and qualitative ions of 36 pesticides

Compound	Formula	RT/ min	Quantitative ion pair/ <i>m/z</i>	Qualitative ion pair/ <i>m/z</i>
Organochlorine Pesticides				
Dichlobenil	C ₇ H ₃ Cl ₂ N	7.72	171.0-100.0	171.0-136.1
α -HCH	C ₆ H ₆ Cl ₆	14.32	218.9-183.0	216.9-181.0
Hexachlorobenzene	C ₆ Cl ₆	14.59	283.8-213.9	283.8-248.8
β -HCH	C ₆ H ₆ Cl ₆	15.35	181.0-145.0	216.9-181.0
γ -HCH	C ₆ H ₆ Cl ₆	15.58	181.0-145.0	216.9-181.0
δ -HCH	C ₆ H ₆ Cl ₇	16.51	217.0-181.1	181.1-145.1
<i>o,p'</i> -DDE	C ₁₄ H ₈ Cl ₄	22.24	246.0-176.2	248.0-176.2
<i>p,p'</i> -DDE	C ₁₄ H ₈ Cl ₄	23.41	246.1-176.2	315.8-246.0
<i>p,p'</i> -DDD	C ₁₄ H ₁₀ Cl ₄	24.92	234.9-165.1	236.9-165.2
<i>o,p'</i> -DDT	C ₁₄ H ₉ Cl ₅	25.024	235.0-165.2	237.0-165.2
<i>p,p'</i> -DDT	C ₁₄ H ₉ Cl ₅	26.25	235.0-165.2	237.0-165.2
Chlorfenson	C ₁₂ H ₈ Cl ₂ O ₃ S	22.85	175.0-111.0	111.0-75.0
Clomazone	C ₁₂ H ₁₄ ClNO ₂	15.40	125.0-89.0	204.1-107.1
β -Endosulfan	C ₉ H ₆ Cl ₆ O ₃ S	24.51	206.9-172.0	194.9-124.9
Organophosphorus pesticides				
Methacrifos	C ₇ H ₁₃ O ₅ PS	10.47	207.9-180.1	207.9-93.0
Phorate	C ₇ H ₁₇ O ₂ PS ₃	14.22	260.0-75.0	230.9-128.9
Dichlofenthion	C ₁₀ H ₁₃ Cl ₂ O ₃ PS	17.78	278.9-222.9	222.9-204.9
Fenchlorphos	C ₈ H ₈ ClO ₃ PS	18.66	285.0-269.9	286.9-272.0
Bromophos	C ₈ H ₈ BrCl ₂ O ₃ PS	20.59	330.8-315.8	328.8-313.8
Isofenphos-methyl	C ₁₄ H ₂₂ NO ₄ PS	20.99	199.0-121.0	241.1-199.1
Bromophos-ethyl	C ₁₀ H ₁₂ BrCl ₂ O ₃ PS	22.23	358.7-302.8	302.8-284.7
Ditalimfos	C ₁₂ H ₁₄ NO ₄ PS	22.72	130.0-102.1	148.0-130.1
Isofenphos-oxon	C ₁₅ H ₂₄ NO ₅ P	20.32	229.0-200.9	229.0-121.0
Chlorthiophos	C ₁₁ H ₁₅ Cl ₂ O ₃ PS ₂	25.29	324.8-268.9	296.8-268.9
Terbufos	C ₉ H ₂₁ O ₂ PS ₃	15.88	230.9-175.0	230.9-129.0
Diazinon	C ₁₂ H ₂₁ N ₂ O ₃ PS	16.42	137.1-84.0	137.1-54.0
Chlorpyrifos	C ₉ H ₁₁ Cl ₃ NO ₃ PS	19.99	196.9-169.0	198.9-171.0
Parathion methyl	C ₈ H ₁₀ NO ₃ PS	18.11	262.9-109.0	232.9-109.0
Malathion	C ₁₀ H ₁₉ O ₆ PS ₂	19.65	126.9-99.0	172.9-99.0
Parathion	C ₁₀ H ₁₄ NO ₅ PS	20.01	290.9-109.0	138.9-190.0
Organic amine pesticides				
Profluralin	C ₁₄ H ₁₆ F ₃ N ₃ O ₄	16.08	317.9-199.0	317.9-54.8
Triallate	C ₁₀ H ₁₆ Cl ₃ NOS	16.84	268.0-184.1	142.9-83.0
Pentachloroaniline	C ₆ H ₂ Cl ₅ N	17.32	262.8-192.0	264.9-194.0
Vinclozolin	C ₁₂ H ₉ Cl ₂ NO ₃	18.12	187.0-124.0	197.9-145.0
Cyflufenamid	C ₂₀ H ₁₇ F ₅ N ₂ O ₂	24.40	118.1-90.0	118.1-89.0
Kresoxim-methyl	C ₁₈ H ₁₉ NO ₄	24.06	116.0-89.0	116.0-63.0
Heptachlor exo-epoxide	C ₁₀ H ₅ Cl ₇ O	21.103	352.8-262.9	354.8-264.9

Table S4

Limit of quantitation (LOQs) and the spiked recoveries of investigated pesticides in the seawater and sediments.

Compound	Procedural Blank		Limit of quantitation		Spiked recovery (%, RSD)	
	Seawater (ng/L)	Sediment (ng/g dw)	Seawater (ng/L)	Sediment (ng/g dw)	Seawater	Sediment
Organochlorine Pesticides						
Dichlobenil	0.0037	0.0023	0.0181	0.0037	101.1 (7.18)	134.61 (15.39)
α -HCH	0.0025	0.0015	0.0230	0.0045	85.16 (7.14)	93.31 (10.86)
Hexachlorobenzene	0.0075	0.0046	0.0006	0.0100	82.01 (1.26)	96.12 (10.78)
β -HCH	0.0061	0.0037	0.0029	0.0042	76.91 (0.81)	72.96 (6.91)
γ -HCH	0.0036	0.0022	0.0960	0.0032	71.46 (2.60)	85.39 (8.30)
δ -HCH	0.0034	0.0021	0.0200	0.0028	67.36 (5.67)	75.78 (12.18)
<i>o,p'</i> -DDE	0.0027	0.0017	0.0028	0.0037	94.42 (10.05)	80.88 (0.40)
<i>p,p'</i> -DDE	0.0054	0.0033	0.1100	0.0071	142.63 (16.71)	88.62 (14.32)
<i>p,p'</i> -DDD	0.0017	0.0011	0.0006	0.0017	135.02 (8.08)	71.24 (2.57)
<i>o,p'</i> -DDT	0.0025	0.0015	0.0018	0.0044	115.72 (15.52)	50.23 (21.48)
<i>p,p'</i> -DDT	0.0306	0.0189	0.0007	0.0272	120.06 (10.62)	65.01 (18.88)
Chlorfenson	0.0028	0.0017	0.2700	0.0067	131.15 (7.19)	128.39 (13.54)
Clomazone	0.0016	0.0010	0.0081	0.0027	152.93 (15.10)	112.10 (8.75)
β -Endosulfan	0.0031	0.0019	0.1300	0.0055	111.05 (1.26)	84.35 (1.02)
Organophosphorus pesticides						
Methacrifos	n.d.	n.d.	0.0093	0.0057	42.66 (16.29)	43.27 (14.27)
Phorate	n.d.	n.d.	0.0028	0.0017	128.05 (3.44)	142.96 (15.83)
Dichlofenthion	0.0008	0.0005	0.0007	0.0010	106.18 (8.71)	111.08 (13.07)
Fenchlorphos	0.0014	0.0008	0.0010	0.0026	85.19 (1.43)	101.97 (1.01)
Bromophos	0.0010	0.0006	0.0067	0.0008	117.66 (6.99)	92.66 (7.73)
Isofenphos-methyl	0.0006	0.0004	0.0003	0.0010	44.19 (10.68)	77.00 (6.75)
Bromophos-ethyl	0.0011	0.0007	0.016	0.0015	110.53 (7.68)	95.72 (6.88)
Ditalimfos	0.0100	0.0062	0.0024	0.0099	50.09 (7.34)	98.90 (8.67)
Isofenphos-oxon	0.0233	0.0143	0.1600	0.0820	65.18 (12.23)	48.96 (15.04)
Chlorthiophos	0.0007	0.0005	0.0058	0.0008	156.80 (12.92)	117.55 (5.67)
Terbufos	0.0010	0.0006	0.0043	0.0027	58.36 (10.40)	64.25 (5.23)
Diazinon	0.0010	0.0006	0.0016	0.0010	84.54 (0.41)	76.20 (6.31)
Chlorpyrifos	0.0358	0.0222	0.0960	0.0595	110.01 (3.27)	98.51 (14.14)
Parathion methyl	0.0017	0.0011	0.0040	0.0025	97.14 (2.07)	66.85 (9.10)
Malathion	0.0052	0.0032	0.0170	0.0108	98.57 (10.85)	89.47 (11.81)
Parathion	0.0025	0.0015	0.0115	0.0071	75.87 (7.15)	85.12 (14.14)
Organic amine pesticides						
Profluralin	0.0016	0.0010	0.0240	0.0030	75.64 (9.81)	47.73 (3.61)
Triallate	0.0010	0.0006	0.0094	0.0012	88.85 (9.08)	107.54 (8.79)
Pentachloroaniline	0.0019	0.0012	0.0860	0.0043	78.76 (0.25)	99.13 (11.89)
Vinclozolin	0.0018	0.0011	0.1200	0.0027	94.42 (0.11)	99.12 (0.91)
Cyflufenamid	0.0621	0.0382	0.0180	0.0390	127.09 (7.61)	39.88 (27.64)
Kresoxim-methyl	0.0325	0.0200	0.0032	0.0301	54.39 (24.47)	44.43 (29.69)

Note: n.d. means not detected.

Table S5

Concentrations of pesticides in surface seawater and sediments in the Beibu Gulf.

	L19	L34	L52	L69	L79	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40
Seawater (pg/L)																			
Organochlorine Pesticides																			
Dichlobenil	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
α-HCH	66.2	77.8	62.1	51.4	48.3	84.4	40.4	110.5	45.3	42.8	32.1	40.5	76.3	49.7	91.4	92.3	51.4	114.4	296.7
Hexachlorobenzene	n.d.	n.d.	42.5	36.2	93.4	12n.d.	66.9	292.9	n.d.	n.d.	22.5	34.1	324.1	16.8	108.6	143.8	n.d.	n.d.	1545.4
β-HCH	38.2	77.5	80.8	48.8	64.3	12n.d.	62.0	99.3	53.4	42.9	40.8	61.6	95.8	43.4	93.6	94.9	31.8	111.2	308.9
γ-HCH	n.d.	<LOQs	<LOQs	n.d.	n.d.	<LOQs	<LOQs	<LOQs	n.d.	n.d.	n.d.	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	160.4
δ-HCH	n.d.	43.5	n.d.	n.d.	n.d.	32.6	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	31.7	n.d.	36.2	n.d.	n.d.	50.7	37.5
o,p'-DDE	n.d.	56.7	<LOQs	<LOQs	6.2	53.8	4.9	6.5	n.d.	3.3	<LOQs	3.8	64.7	n.d.	58.2	<LOQs	n.d.	79.8	52.6
p,p'-DDE	<LOQs	187.8	116.4	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	114.5	138.3
p,p'-DDD	21.6	464.0	35n.d.	38.9	39.0	45.7	12.6	26.8	<LOQs	n.d.	n.d.	n.d.	44.4	0.7	65.4	6.2	11.5	66.4	33.1
o,p'-DDT	79.3	350.2	228.5	81.3	85.7	59.3	11.1	27.5	<LOQs	14.7	2.9	5.5	58.3	14.9	150.3	14.2	24.3	68.4	65.6
p,p'-DDT	371.9	1379.7	704.0	308.9	340.5	96.0	25.8	73.5	7.9	57.7	7.0	18.2	75.5	59.0	493.9	35.0	113.8	110.6	79.6
Chlorfenson	n.d.	<LOQs	<LOQs	n.d.	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs
Clomazone	n.d.	73.6	73.6	<LOQs	5.7	60.1	5.1	10.4	n.d.	<LOQs	n.d.	n.d.	74.8	n.d.	71.9	n.d.	n.d.	106.8	33.6
β-Endosulfan	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	n.d.	<LOQs	<LOQs
Organophosphorus pesticides																			
Methacrifos	81.2	162.1	62.1	39.8	43.6	19.6	77.4	159.0	64.9	122.9	32.8	255.7	70.2	140.8	203.9	105.9	101.0	52.0	616.4
Phorate	26.5	67.0	267.0	215.8	10.6	14.6	n.d.	209.8	n.d.	n.d.	n.d.	n.d.	123.8	n.d.	58.5	41.5	28.4	331.9	455.5
Dichlorfenthion	n.d.	52.6	52.6	4.7	1.9	49.4	1.3	7.0	n.d.	2.6	<LOQs	<LOQs	65.6	0.8	59.4	5.6	n.d.	81.2	18.1
Fenchlorphos	n.d.	41.8	41.8	n.d.	<LOQs	35.6	n.d.	1.7	n.d.	<LOQs	<LOQs	n.d.	56.4	n.d.	50.1	n.d.	n.d.	68.7	9.1
Bromophos	8.2	65.2	65.2	<LOQs	9.1	50.1	8.9	10.3	n.d.	6.8	<LOQs	<LOQs	73.2	<LOQs	75.0	6.8	<LOQs	98.8	30.8
Isofenphos-methyl	n.d.	n.d.	n.d.	n.d.	n.d.	61.9	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	100.7	n.d.
Bromophos-ethyl	n.d.	48.3	48.3	n.d.	<LOQs	44.8	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	57.7	n.d.	62.5	n.d.	n.d.	80.4	<LOQs
Ditalimfos	n.d.	37.8	37.8	2.6	n.d.	49.2	n.d.	23.5	4.9	5.1	20.3	n.d.	60.2	n.d.	42.7	9.5	n.d.	54.6	42.4
Isofenphos-oxon	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs
Chlorthiophos	n.d.	74.0	74.0	<LOQs	<LOQs	56.5	7.8	11.1	n.d.	n.d.	n.d.	n.d.	73.2	n.d.	73.2	<LOQs	n.d.	98.8	39.5
Terbufos	3.2	45.4	62.1	7.6	20.4	60.1	9.3	8.3	6.5	3.6	9.0	15.1	60.7	3.6	49.1	7.6	1.8	63.4	42.7
Diazinon	n.d.	54.2	67.0	2.2	5.9	55.0	1.3	0.8	n.d.	n.d.	0.8	1.9	65.5	0.2	62.3	n.d.	n.d.	83.7	9.6
Chlorpyrifos	n.d.	<LOQs	<LOQs	n.d.	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs
Parathion methyl	n.d.	35.0	51.8	n.d.	<LOQs	33.4	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	43.5	n.d.	41.5	n.d.	n.d.	57.7	n.d.
Malathion	9.2	116.5	85.2	n.d.	n.d.	66.8	5.6	16.9	n.d.	n.d.	2.1	n.d.	63.7	n.d.	20.6	96.5	n.d.	77.5	61.6
Parathion	37.4	51.1	82.8	67.1	112.3	164.7	58.2	105.3	40.4	19.1	64.4	63.0	107.1	62.8	76.2	55.5	42.1	82.2	633.0
Organic amine pesticides																			
Profluralin	n.d.	<LOQs	n.d.	n.d.	n.d.	23.9	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs
Triallate	n.d.	39.5	39.5	9.9	<LOQs	37.7	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	46.3	n.d.	44.0	n.d.	n.d.	86.6	23.1
Pentachloroaniline	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs
Vinclozolin	n.d.	<LOQs	<LOQs	n.d.	n.d.	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs
Cyflufenamid	n.d.	15884.8	9884.8	462.8	n.d.	n.d.	2809.9	10718.	727.3	n.d.	3869.2	n.d.	169.7	1585.0	7478.0	7006.0	n.d.	9n.d.	10392.5

Kresoxim-methyl	n.d.	1302.2	902.2	79.9	n.d.	n.d.	n.d.	1306.9	n.d.	n.d.	253.2	n.d.	n.d.	n.d.	n.d.	1332.4	202.1	n.d.	3890.2
Sediment (pg/g dw)																			
Organochlorine Pesticides																			
Dichlobenil	n.d.	n.d.	n.d.	n.d.	n.d.	380.7	n.d.	84.2	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	26.9	n.d.
α-HCH	<LOQs	9.1	9.4	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	4.6	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	7.9	11.7	11.1
Hexachlorobenzene	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
β-HCH	n.d.	18.5	10.1	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	6.6	<LOQs	4.5
γ-HCH	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
δ-HCH	<LOQs	<LOQs	7.5	3.4	<LOQs	<LOQs	n.d.	4.6	<LOQs	7.8	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	n.d.	9.0	14.1	8.1
o,p'-DDE	n.d.	127.6	10.9	<LOQs	<LOQs	<LOQs	<LOQs	4.2	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	10.3	12.9	13.5
p,p'-DDE	n.d.	3009.4	47.6	49.6	33.1	12.9	23.0	23.3	20.3	21.8	43.5	13.1	9.4	n.d.	18.4	23.5	21.4	14.7	33.8
p,p'-DDD	n.d.	1573.0	27.6	61.8	19.7	n.d.	4.0	4.1	3.8	5.5	4.8	5.0	1.9	n.d.	8.3	14.9	8.2	10.9	20.4
o,p'-DDT	n.d.	594.1	11.9	37.8	11.6	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs	<LOQs	n.d.	n.d.	5.6	14.2	7.4	8.2	16.4
p,p'-DDT	n.d.	2049.8	n.d.	31.4	n.d.	9n.d.	n.d.	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Chlorfenson	n.d.	<LOQs	9.9	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	n.d.	7.8	9.0	15.4
Clomazone	n.d.	<LOQs	14.0	<LOQs	3.1	3.2	<LOQs	<LOQs	<LOQs	3.0	<LOQs	n.d.	n.d.	n.d.	<LOQs	<LOQs	9.1	13.7	15.6
β-Endosulfan	12.8	n.d.	10.3	n.d.	n.d.	20.2	<LOQs	<LOQs	7.2	6.4	<LOQs	<LOQs	n.d.	<LOQs	n.d.	10.3	11.9	26.3	5.6
Organophosphorus pesticides																			
Methacrifos	239.3	287.7	337.5	371.6	178.5	26.8	110.6	134.1	299.3	238.3	234.4	314.0	146.6	n.d.	228.8	276.3	151.1	178.7	n.d.
Phorate	n.d.	2038.4	n.d.	n.d.	n.d.	n.d.	n.d.	1895.3	3156.3	1763.3	n.d.	2809.8	n.d.	n.d.	n.d.	1930.8	n.d.	n.d.	2143.4
Dichlofenthion	2.0	<LOQs	12.6	2.7	1.6	1.8	<LOQs	4.5	1.3	2.4	<LOQs	1.6	2.5	n.d.	2.7	1.2	13.8	14.8	16.9
Fenchlorphos	2.9	n.d.	10.4	<LOQs	n.d.	<LOQs	4.1	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	9.8	16.2	16.5
Bromophos	1.5	<LOQs	13.5	2.1	1.9	<LOQs	3.0	2.5	<LOQs	2.7	2.0	2.5	1.3	n.d.	1.7	<LOQs	10.6	12.5	15.9
Isofenphos-methyl	n.d.	n.d.	11.3	2.0	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	9.3	8.4
Bromophos-ethyl	1.8	1.7	14.5	3.0	3.4	<LOQs	2.7	3.4	<LOQs	2.0	<LOQs	3.7	2.2	<LOQs	<LOQs	3.6	15.2	16.3	21.5
Ditalimfos	n.d.	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.
Isofenphos-oxon	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs
Chlorthiophos	2.8	n.d.	11.8	1.4	2.3	<LOQs	1.1	3.0	4.0	1.8	1.3	2.6	1.0	n.d.	2.0	<LOQs	9.3	16.9	13.9
Terbufos	n.d.	n.d.	112.0	<LOQs	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	<LOQs	n.d.	5.9	9.8	7.8
Diazinon	<LOQs	n.d.	210.2	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	n.d.	2.0	1.7	<LOQs	3.0	n.d.	2.7	<LOQs	5.4	22.2	16.0
Chlorpyrifos	<LOQs	<LOQs	105.6	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	<LOQs
Parathion methyl	<LOQs	<LOQs	129.5	<LOQs	n.d.	n.d.	<LOQs	<LOQs	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	4.0	6.4	6.4
Malathion	n.d.	n.d.	25.1	<LOQs	n.d.	n.d.	14.0	n.d.	n.d.	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	<LOQs	<LOQs	<LOQs
Parathion	n.d.	n.d.	178.0	7.9	n.d.	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	n.d.	<LOQs	11.6	<LOQs	20.9
Organic amine pesticides																			
Profluralin	n.d.	<LOQs	13.6	<LOQs	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	n.d.	n.d.	n.d.	<LOQs	n.d.	6.7	3.3	4.9
Triallate	<LOQs	<LOQs	10.9	1.9	<LOQs	4.0	2.0	3.1	2.6	2.0	<LOQs	1.4	1.3	n.d.	1.5	1.6	10.4	13.9	16.3
Pentachloroaniline	n.d.	17.1	51.0	49.1	44.1	81.0	95.2	97.9	95.8	174.4	152.8	168.2	48.8	17.5	46.8	70.8	21.9	12.7	116.6
Vinclozolin	<LOQs	n.d.	12.4	n.d.	<LOQs	<LOQs	<LOQs	<LOQs	n.d.	<LOQs	n.d.	<LOQs	<LOQs	n.d.	<LOQs	n.d.	11.7	10.9	7.6
Cyflufenamid	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Kresoxim-methyl	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

Note: n.d. = not detected

Table S6

LC50 or EC50 and PNEC values of target pesticides to algae, crustaceans and fish.

Common Name	Aquatic organisms	EC50/LC50 mg/L	Algae PNEC ng/L	Crustaceans PNEC ng/L	Fish PNEC ng/L	Ref.
Methacrifos	Algae	7.501				a
	Crustaceans	0.000778	7501	0.78	4219	b
	Fish	4.219				b
Phorate	Algae	1.3				b
	Crustaceans	0.000596	1300	0.60	3.26	b
	Fish	0.00326				b
Dichlofenthion	Algae	0.64				b
	Crustaceans	0.000469	640	0.47	5	a
	Fish	0.005				a
Fenchlorphos	Algae	0.34				a
	Crustaceans	0.000528	340	0.53	11	a
	Fish	0.011				a
Bromophos	Algae	0.271				a
	Crustaceans	0.000559	271	0.56	7	a
	Fish	0.007				a
Isofenphos-methyl	Algae	/				
	Crustaceans	/	/	/	/	/
	Fish	/				
Bromophos-ethyl	Algae	0.07				a
	Crustaceans	0.000453	70	0.45	0.54	a
	Fish	0.000539				a
Ditalimfos	Algae	2.309				a
	Crustaceans	0.000732	2309	0.73	406	a
	Fish	0.406				a
Isofenphos-oxon	Algae	554.365				a
	Crustaceans	0.011	554365	11	1547	a
	Fish	1.547				a
Chlorthiophos	Algae	0.098				a
	Crustaceans	0.000451	98	0.45	1.07	a
	Fish	0.00107				a
terbufos	Algae	1.05				b
	Crustaceans	0.00031	1050	0.31	3.89	b
	Fish	0.00389				b
diazinon	Algae	26.408				b
	Crustaceans	0.0112	26408.12	11.18	1970	b
	Fish	1.97				b
chlorpyrifos	Algae	0.344				b
	Crustaceans	3.321	344.57	3320.94	970.00	b
	Fish	0.970				b
profenofos	Algae	5.3				b
	Crustaceans	0.00533	5300	5.33	4050.67	b
	Fish	4.051				b
malathion	Algae	88.63				b
	Crustaceans	0.0339	88630	33.93	155.99	b
	Fish	0.156				b

	Algae	1.592				a
parathion	Crustaceans	0.00012	1592	0.12	62.5	b
	Fish	0.0625				b
	Algae	3.473				b
Profluralin	Crustaceans	0.145	3472.939	0	503	a
	Fish	0.503				a
	Algae	0.33				b
Triallate	Crustaceans	0.067	330	67	117	b
	Fish	0.117				b
	Algae	0.857				a
Pentachloroaniline	Crustaceans	0.3	857	300	948	b
	Fish	0.948				a
	Algae	0.87				b
Vinclozolin	Crustaceans	5.448	870	5447.92	3500	b
	Fish	3.5				b
	Algae	/				/
Cyflufenamid	Crustaceans	/				/
	Fish	/				/
	Algae	0.288				b
Kresoxim-methyl	Crustaceans	0.059	288	59	1173	b
	Fish	1.173				b
	Algae	3.1				b
Dichlobenil	Crustaceans	2.35	3100	2350	12700	b
	Fish	12.7				b
	Algae	10				b
α -HCH	Crustaceans	0.5	10000	500	2855	b
	Fish	2.86				a
	Algae	0.01				b
Hexachlorobenzen e	Crustaceans	0.021	10	21	56.5	b
	Fish	0.056				b
	Algae	2.761				a
β -HCH	Crustaceans	0.46	2761	460	2855	a
	Fish	2.855				a
	Algae	24.78				b
γ -HCH	Crustaceans	0.052	24775	51.99	62.63	b
	Fish	0.063				b
	Algae	2.761				a
δ -HCH	Crustaceans	3.406	2761	3406.25	700	b
	Fish	0.7				b
	Algae	0.069				a
<i>o,p'</i> -DDE	Crustaceans	0.003	69	3	5	b
	Fish	0.005				b
	Algae	0.069				a
<i>p,p'</i> -DDE	Crustaceans	0.0025	69	2.5	5	a
	Fish	0.005				a
	Algae	0.232				a
<i>p,p'</i> -DDD	Crustaceans	0.0675	232	67.52	113	b
	Fish	0.113				a
	Algae	0.059				a
<i>o,p'</i> -DDT	Crustaceans	10.792	59	10792	19	b

	Fish	0.019				a
	Algae	0.085				b
<i>p,p'</i> -DDT	Crustaceans	0.0487	85	48.70	12.30	b
	Fish	0.0123				b
	Algae	1.014				a
Chlorfenson	Crustaceans	0.905	1014	905	2740	a
	Fish	2.74				a
	Algae	1.3				b
Clomazone	Crustaceans	0.566	1300	566	40600	b
	Fish	40.6				b
	Algae	6.842				b
β -Endosulfan	Crustaceans	0.55	6842	550	5.5	b
	Fish	0.0055				b

^a Estimated by Estimation Program Interface (EPI) Suite, V 4.1; U.S. EPA 13;

^b ECOTOX Knowledgebase: <https://cfpub.epa.gov/ecotox/search.cfm>

Table S7

RQ for algae in seawater.

Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	2.6E-0 6	1.0E-0 5	2.1E-0 5	8.6E-0 6	1.6E-0 5	4.4E-0 6	3.4E-0 5	9.4E-0 6	1.9E-0 5	2.7E-0 5	1.4E-0 5	1.3E-0 5	6.9E-0 6	8.2E-0 5	1.1E-0 5	2.2E-0 5	8.3E-0 6	5.3E-0 6	5.8E-0 6
Phorate	1.1E-0 5	0.0E+ 00	1.6E-0 4	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	9.5E-0 5	0.0E+ 00	4.5E-0 5	3.2E-0 5	2.2E-0 5	2.6E-0 4	3.5E-0 4	2.0E-0 5	5.2E-0 5	2.1E-0 4	1.7E-0 4	8.2E-0 6
Dichlofenthion	7.7E-0 5	2.1E-0 6	1.1E-0 5	0.0E+ 00	4.0E-0 6	1.3E-0 7	8.1E-0 7	1.0E-0 4	1.3E-0 6	9.3E-0 5	8.8E-0 6	0.0E+ 00	1.3E-0 4	2.8E-0 5	0.0E+ 00	8.2E-0 5	8.2E-0 5	7.3E-0 6	3.0E-0 6
Fenchlorphos	1.0E-0 4	0.0E+ 00	4.9E-0 6	0.0E+ 00	1.2E-0 6	1.2E-0 7	0.0E+ 00	1.7E-0 4	0.0E+ 00	1.5E-0 4	0.0E+ 00	0.0E+ 00	2.0E-0 4	2.7E-0 5	0.0E+ 00	1.2E-0 4	1.2E-0 4	0.0E+ 00	2.0E-0 6
Bromophos	1.8E-0 4	3.3E-0 5	3.8E-0 5	0.0E+ 00	2.5E-0 5	1.5E-0 5	1.6E-0 5	2.7E-0 4	1.4E-0 5	2.8E-0 4	2.5E-0 5	1.4E-0 5	3.6E-0 4	1.1E-0 4	3.0E-0 5	2.4E-0 4	2.4E-0 4	2.1E-0 5	3.4E-0 5
Isofenphos-met hyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophos-eth yl	6.4E-0 4	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	8.2E-0 4	0.0E+ 00	8.9E-0 4	0.0E+ 00	0.0E+ 00	1.1E-0 3	1.2E-0 4	0.0E+ 00	6.9E-0 4	6.9E-0 4	0.0E+ 00	2.0E-0 5
Ditalimfos	2.1E-0 5	0.0E+ 00	1.0E-0 5	2.1E-0 6	2.2E-0 6	8.8E-0 6	0.0E+ 00	2.6E-0 5	0.0E+ 00	1.9E-0 5	4.1E-0 6	0.0E+ 00	2.4E-0 5	1.8E-0 5	0.0E+ 00	1.6E-0 5	1.6E-0 5	1.1E-0 6	0.0E+ 00
Isofenphos-oxo n	1.1E-0 7	4.6E-0 8	6.9E-0 8	1.9E-0 8	1.9E-0 8	2.6E-0 8	3.8E-0 8	1.1E-0 7	1.6E-0 8	1.5E-0 7	2.1E-0 8	0.0E+ 00	1.9E-0 7	9.9E-0 8	1.6E-0 8	1.0E-0 7	1.0E-0 7	5.2E-0 8	3.1E-0 8
Chlorthiophos	5.8E-0 4	7.9E-0 5	1.1E-0 4	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	7.5E-0 4	0.0E+ 00	7.5E-0 4	3.8E-0 5	0.0E+ 00	1.0E-0 3	4.0E-0 4	0.0E+ 00	7.6E-0 4	7.6E-0 4	2.3E-0 5	5.9E-0 5
terbufos	5.7E-0 5	8.9E-0 6	7.9E-0 6	6.2E-0 6	3.5E-0 6	8.6E-0 6	1.4E-0 5	5.8E-0 5	3.4E-0 6	4.7E-0 5	7.3E-0 6	1.7E-0 6	6.0E-0 5	4.1E-0 5	3.1E-0 6	4.3E-0 5	5.9E-0 5	7.2E-0 6	1.9E-0 5
diazinon	2.1E-0 6	4.7E-0 8	2.9E-0 8	0.0E+ 00	0.0E+ 00	2.9E-0 8	7.3E-0 8	2.5E-0 6	7.4E-0 9	2.4E-0 6	0.0E+ 00	0.0E+ 00	3.2E-0 6	3.6E-0 7	0.0E+ 00	2.1E-0 6	2.5E-0 6	8.4E-0 8	2.3E-0 7
chlorpyrifos	8.5E-0 5	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.1E-0 4	0.0E+ 00	1.0E-0 4	0.0E+ 00	0.0E+ 00	1.5E-0 4	6.6E-0 6	0.0E+ 00	9.5E-0 5	1.5E-0 4	0.0E+ 00	0.0E+ 00
profenofos	6.3E-0 6	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	8.2E-0 6	0.0E+ 00	7.8E-0 6	0.0E+ 00	0.0E+ 00	1.1E-0 5	0.0E+ 00	0.0E+ 00	6.6E-0 6	9.8E-0 6	0.0E+ 00	2.1E-0 7
malathion	7.5E-0 7	6.3E-0 8	1.9E-0 7	0.0E+ 00	0.0E+ 00	2.4E-0 8	0.0E+ 00	7.2E-0 7	0.0E+ 00	2.3E-0 7	1.1E-0 6	0.0E+ 00	8.7E-0 7	6.9E-0 7	1.0E-0 7	1.3E-0 6	9.6E-0 7	0.0E+ 00	0.0E+ 00
parathion	1.0E-0 4	3.7E-0 5	6.6E-0 5	2.5E-0 5	1.2E-0 5	4.0E-0 5	4.0E-0 5	6.7E-0 5	3.9E-0 5	4.8E-0 5	3.5E-0 5	2.6E-0 5	5.2E-0 5	4.0E-0 4	2.4E-0 5	3.2E-0 5	5.2E-0 5	4.2E-0 5	7.1E-0 5
Profluralin	6.9E-0 6	0.0E+ 00	8.6E-0 7	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	4.9E-0 6	0.0E+ 00	4.8E-0 6	0.0E+ 00	0.0E+ 00	6.0E-0 6	2.2E-0 6	0.0E+ 00	3.9E-0 6	0.0E+ 00	0.0E+ 00	0.0E+ 00

Triallate	1.1E-04	6.1E-06	2.8E-05	0.0E+00	3.6E-06	3.1E-07	2.9E-06	1.4E-04	0.0E+00	1.3E-04	0.0E+00	0.0E+00	2.6E-04	7.0E-05	0.0E+00	1.2E-04	1.2E-04	3.0E-05	4.1E-06
Pentachloroaniline	5.2E-05	1.1E-05	1.5E-05	4.1E-06	6.8E-06	3.8E-06	9.2E-06	6.8E-05	0.0E+00	6.7E-05	4.7E-05	2.7E-05	8.0E-05	5.7E-05	2.6E-06	4.9E-05	4.9E-05	0.0E+00	1.1E-05
Vinclozolin	5.6E-05	2.1E-06	5.7E-06	0.0E+00	2.8E-06	0.0E+00	1.9E-06	6.3E-05	0.0E+00	5.7E-05	0.0E+00	0.0E+00	8.7E-05	2.2E-05	0.0E+00	4.8E-05	4.8E-05	0.0E+00	0.0E+00
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+00	0.0E+00	4.5E-03	0.0E+00	0.0E+00	8.8E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.6E-03	7.0E-04	0.0E+00	1.4E-02	0.0E+00	4.5E-03	3.1E-03	2.8E-04	0.0E+00
Dichlobenil	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
α-HCH	8.4E-06	4.0E-06	1.1E-05	4.5E-06	4.3E-06	3.2E-06	4.0E-06	7.6E-06	5.0E-06	9.1E-06	9.2E-06	5.1E-06	1.1E-05	3.0E-05	6.6E-06	7.8E-06	6.2E-06	5.1E-06	4.8E-06
Hexachlorobenzene	1.2E-02	6.7E-03	2.9E-03	0.0E+00	0.0E+00	2.2E-03	3.4E-03	3.2E-03	1.7E-03	1.1E-03	1.4E-03	0.0E+00	0.0E+00	1.5E-03	0.0E+00	0.0E+00	4.2E-03	3.6E-03	9.3E-03
β-HCH	4.3E-05	2.2E-05	3.6E-05	1.9E-05	1.6E-05	1.5E-05	2.2E-05	3.5E-05	1.6E-05	3.4E-05	3.4E-05	1.2E-05	4.0E-05	1.1E-05	1.4E-05	2.8E-05	2.9E-05	1.8E-05	2.3E-05
γ-HCH	1.8E-06	1.6E-07	1.8E-06	0.0E+00	0.0E+00	0.0E+00	3.5E-08	1.4E-06	0.0E+00	1.7E-06	9.6E-07	0.0E+00	2.6E-06	6.5E-07	0.0E+00	8.6E-07	8.1E-07	0.0E+00	0.0E+00
δ-HCH	1.2E-05	0.0E+00	4.4E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-05	0.0E+00	1.3E-05	0.0E+00	0.0E+00	1.8E-05	1.4E-05	0.0E+00	1.6E-05	0.0E+00	0.0E+00	0.0E+00
o,p'-DDE	7.8E-04	7.1E-05	9.4E-05	0.0E+00	4.8E-05	4.0E-05	5.6E-05	9.4E-05	0.0E+00	8.4E-05	4.0E-05	0.0E+00	1.2E-05	7.6E-06	0.0E+00	8.2E-06	4.0E-06	1.4E-06	9.0E-06
p,p'-DDE	1.3E-03	4.7E-04	5.6E-04	2.6E-04	2.9E-04	2.4E-04	3.0E-04	1.5E-03	2.2E-04	1.4E-03	3.7E-04	1.7E-04	1.7E-04	2.0E-04	3.7E-04	2.7E-04	1.7E-04	4.7E-04	6.2E-04
p,p'-DDD	2.0E-04	5.4E-05	1.2E-05	2.3E-06	0.0E+00	0.0E+00	0.0E+00	1.9E-05	3.2E-06	2.8E-05	2.7E-05	5.0E-06	2.9E-06	1.4E-06	9.3E-06	2.0E-06	1.5E-06	1.7E-06	1.7E-06
o,p'-DDT	1.0E-03	1.9E-04	4.7E-05	5.9E-05	2.5E-05	4.8E-05	9.4E-05	9.9E-05	2.5E-05	2.5E-05	2.4E-05	4.1E-06	1.2E-06	1.1E-06	1.3E-06	5.9E-06	3.9E-06	1.4E-06	1.5E-06
p,p'-DDT	1.1E-03	3.0E-04	8.7E-05	9.3E-06	6.8E-06	8.3E-06	2.1E-06	8.9E-06	6.9E-06	5.8E-06	4.1E-06	1.3E-06	1.3E-06	9.4E-06	4.4E-06	1.6E-06	8.3E-06	3.6E-06	4.0E-06
Chlorfenson	4.1E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.2E-05	0.0E+00	5.7E-05	0.0E+00	0.0E+00	8.0E-05	8.4E-06	0.0E+00	5.1E-05	5.1E-05	0.0E+00	0.0E+00
Clomazone	4.6E-05	3.9E-06	8.0E-06	0.0E+00	2.4E-06	0.0E+00	0.0E+00	5.8E-06	0.0E+00	5.5E-06	0.0E+00	0.0E+00	8.2E-06	2.6E-06	0.0E+00	5.7E-06	5.7E-06	1.2E-06	4.4E-06
β-Endosulfan	5.8E-06	7.7E-07	2.3E-06	4.2E-07	0.0E+00	0.0E+00	4.5E-07	6.0E-06	1.7E-06	7.4E-06	0.0E+00	0.0E+00	1.1E-06	4.9E-06	0.0E+00	3.4E-06	0.0E+00	0.0E+00	4.2E-07

Table S8

RQ for crustaceans in seawater.

Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	2.5E-0 2	1.0E-0 1	2.0E-0 1	8.3E-0 2	1.6E-0 1	4.2E-0 2	3.3E-0 1	9.0E-0 2	1.8E-0 1	2.6E-0 1	1.4E-0 1	1.3E-0 1	6.7E-0 2	7.9E-0 1	1.0E-0 1	2.1E-0 1	8.0E-0 2	5.1E-0 2	5.6E-0 2
Phorate	2.4E-0 2	0.0E+ 00	3.5E-0 1	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	2.1E-0 1	0.0E+ 00	9.8E-0 2	7.0E-0 2	4.8E-0 2	5.6E-0 1	7.6E-0 1	4.4E-0 2	1.1E-0 1	4.5E-0 1	3.6E-0 1	1.8E-0 2
Dichlofenthion	1.1E-0 1	2.8E-0 3	1.5E-0 2	0.0E+ 00	5.5E-0 3	1.8E-0 4	1.1E-0 3	1.4E-0 1	1.7E-0 3	1.3E-0 1	1.2E-0 2	0.0E+ 00	1.7E-0 1	3.9E-0 2	0.0E+ 00	1.1E-0 1	1.1E-0 1	9.9E-0 3	4.1E-0 3
Fenchlorphos	6.7E-0 2	0.0E+ 00	3.2E-0 3	0.0E+ 00	7.7E-0 4	7.7E-0 5	0.0E+ 00	1.1E-0 1	0.0E+ 00	9.5E-0 2	0.0E+ 00	0.0E+ 00	1.3E-0 1	1.7E-0 2	0.0E+ 00	7.9E-0 2	7.9E-0 2	0.0E+ 00	1.3E-0 3
Bromophos	9.0E-0 2	1.6E-0 2	1.8E-0 2	0.0E+ 00	1.2E-0 2	7.3E-0 3	7.9E-0 3	1.3E-0 1	6.6E-0 3	1.3E-0 1	1.2E-0 2	6.6E-0 3	1.8E-0 1	5.5E-0 2	1.5E-0 2	1.2E-0 1	1.2E-0 1	1.0E-0 2	1.6E-0 2
Isofenphos-met hyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophos-eth yl	9.9E-0 2	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.3E-0 1	0.0E+ 00	1.4E-0 1	0.0E+ 00	0.0E+ 00	1.8E-0 1	1.9E-0 2	0.0E+ 00	1.1E-0 1	1.1E-0 1	0.0E+ 00	3.2E-0 3
Ditalimfos	6.7E-0 2	0.0E+ 00	3.2E-0 2	6.8E-0 3	7.0E-0 3	2.8E-0 2	0.0E+ 00	8.2E-0 2	0.0E+ 00	5.8E-0 2	1.3E-0 2	0.0E+ 00	7.5E-0 2	5.8E-0 2	0.0E+ 00	5.2E-0 2	5.2E-0 2	3.6E-0 3	0.0E+ 00
Isofenphos-oxo n	5.5E-0 3	2.3E-0 3	3.5E-0 3	9.6E-0 4	9.6E-0 4	1.3E-0 3	1.9E-0 3	5.6E-0 3	8.1E-0 4	7.6E-0 3	1.1E-0 3	0.0E+ 00	9.4E-0 3	5.0E-0 3	8.1E-0 4	5.1E-0 3	5.1E-0 3	2.6E-0 3	1.5E-0 3
Chlorthiophos	1.3E-0 1	1.7E-0 2	2.5E-0 2	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.6E-0 1	0.0E+ 00	1.6E-0 1	8.2E-0 3	0.0E+ 00	2.2E-0 1	8.8E-0 2	0.0E+ 00	1.6E-0 1	1.6E-0 1	5.0E-0 3	1.3E-0 2
terbufos	1.9E-0 1	3.0E-0 2	2.7E-0 2	2.1E-0 2	1.2E-0 2	2.9E-0 2	4.9E-0 2	2.0E-0 1	1.1E-0 2	1.6E-0 1	2.5E-0 2	5.9E-0 3	2.0E-0 1	1.4E-0 1	1.0E-0 2	1.5E-0 1	2.0E-0 1	2.4E-0 2	6.6E-0 2
diazinon	4.9E-0 3	1.1E-0 4	6.8E-0 5	0.0E+ 00	0.0E+ 00	6.9E-0 5	1.7E-0 4	5.9E-0 3	1.7E-0 5	5.6E-0 3	0.0E+ 00	0.0E+ 00	7.5E-0 3	8.6E-0 4	0.0E+ 00	4.8E-0 3	6.0E-0 3	2.0E-0 4	5.3E-0 4
chlorpyrifos	8.8E-0 6	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.2E-0 5	0.0E+ 00	1.1E-0 5	0.0E+ 00	0.0E+ 00	1.5E-0 5	6.9E-0 7	0.0E+ 00	9.9E-0 6	1.6E-0 5	0.0E+ 00	0.0E+ 00
profenofos	6.3E-0 3	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	8.2E-0 3	0.0E+ 00	7.8E-0 3	0.0E+ 00	0.0E+ 00	1.1E-0 2	0.0E+ 00	0.0E+ 00	6.6E-0 3	9.7E-0 3	0.0E+ 00	2.1E-0 4
malathion	2.0E-0 3	1.6E-0 4	5.0E-0 4	0.0E+ 00	0.0E+ 00	6.2E-0 5	0.0E+ 00	1.9E-0 3	0.0E+ 00	6.1E-0 4	2.8E-0 3	0.0E+ 00	2.3E-0 3	1.8E-0 3	2.7E-0 4	3.4E-0 3	2.5E-0 3	0.0E+ 00	0.0E+ 00
parathion	1.4E+ 00	4.9E-0 1	8.8E-0 1	3.4E-0 1	1.6E-0 1	5.4E-0 1	5.2E-0 1	8.9E-0 1	5.2E-0 1	6.4E-0 1	4.6E-0 1	3.5E-0 1	6.8E-0 1	5.3E+ 00	3.1E-0 1	4.3E-0 1	6.9E-0 1	5.6E-0 1	9.4E-0 1

Profluralin	1.7E-04	0.0E+00	2.1E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.2E-04	0.0E+00	1.1E-04	0.0E+00	0.0E+00	1.4E-04	5.3E-05	0.0E+00	9.4E-05	0.0E+00	0.0E+00	0.0E+00
Triallate	5.6E-04	3.0E-05	1.4E-04	0.0E+00	1.8E-05	1.5E-06	1.4E-05	6.9E-04	0.0E+00	6.6E-04	0.0E+00	0.0E+00	1.3E-03	3.5E-04	0.0E+00	5.9E-04	5.9E-04	1.5E-04	2.0E-05
Pentachloroaniline	1.5E-04	3.0E-05	4.4E-05	1.2E-05	1.9E-05	1.1E-05	2.6E-05	1.9E-05	0.0E+00	1.9E-05	1.4E-05	7.6E-06	2.3E-05	1.6E-05	7.5E-06	1.4E-05	1.4E-05	0.0E+00	3.2E-05
Vinclozolin	9.0E-06	3.4E-07	9.2E-07	0.0E+00	4.5E-07	0.0E+00	3.0E-07	1.0E-07	0.0E+00	9.1E-07	0.0E+00	0.0E+00	1.4E-07	3.5E-07	0.0E+00	7.6E-07	7.6E-07	0.0E+00	0.0E+00
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+00	0.0E+00	2.2E-02	0.0E+00	0.0E+00	4.3E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-02	3.4E-03	0.0E+00	6.6E-02	0.0E+00	2.2E-02	1.5E-02	1.4E-03	0.0E+00
Dichlobenil	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
α-HCH	1.7E-04	8.1E-05	2.2E-05	9.1E-06	8.6E-06	6.4E-06	8.1E-06	1.5E-05	9.9E-06	1.8E-05	1.8E-05	1.0E-05	2.3E-05	5.9E-06	1.3E-05	1.6E-05	1.2E-05	1.0E-05	9.7E-06
Hexachlorobenzene	5.7E-03	3.2E-03	1.4E-02	0.0E+00	0.0E+00	1.1E-03	1.6E-03	1.5E-03	8.0E-04	5.2E-03	6.8E-03	0.0E+00	0.0E+00	7.4E-03	0.0E+00	0.0E+00	2.0E-03	1.7E-03	4.4E-03
β-HCH	2.6E-04	1.3E-04	2.2E-04	1.2E-04	9.3E-05	8.9E-05	1.3E-04	2.1E-04	9.4E-05	2.0E-04	2.1E-04	6.9E-05	2.4E-04	6.7E-04	8.3E-05	1.7E-04	1.8E-04	1.1E-04	1.4E-04
γ-HCH	8.7E-04	7.6E-05	8.8E-05	0.0E+00	0.0E+00	0.0E+00	1.7E-05	6.9E-05	0.0E+00	8.3E-05	4.6E-05	0.0E+00	1.2E-05	3.1E-05	0.0E+00	4.1E-05	3.8E-05	0.0E+00	0.0E+00
δ-HCH	9.6E-06	0.0E+00	3.6E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.3E-07	0.0E+00	1.1E-06	0.0E+00	0.0E+00	1.5E-06	1.1E-06	0.0E+00	1.3E-06	0.0E+00	0.0E+00	0.0E+00
o,p'-DDE	1.8E-02	1.6E-03	2.2E-03	0.0E+00	1.1E-03	9.2E-04	1.3E-03	2.2E-03	0.0E+00	1.9E-03	9.2E-03	0.0E+00	2.7E-03	1.8E-03	0.0E+00	1.9E-03	9.2E-03	3.3E-03	2.1E-03
p,p'-DDE	3.5E-02	1.3E-02	1.5E-02	7.3E-03	8.1E-03	6.6E-03	8.2E-03	4.1E-03	6.1E-03	3.9E-03	1.0E-02	4.8E-03	4.6E-03	5.5E-03	1.0E-02	7.5E-03	4.7E-03	1.3E-03	1.7E-03
p,p'-DDD	6.8E-04	1.9E-04	4.0E-04	8.0E-05	0.0E+00	0.0E+00	0.0E+00	6.6E-04	1.1E-04	9.7E-04	9.1E-04	1.7E-04	9.8E-04	4.9E-04	3.2E-04	6.9E-04	5.2E-04	5.8E-04	5.8E-04
o,p'-DDT	5.5E-06	1.0E-06	2.6E-06	3.2E-06	1.4E-06	2.6E-06	5.1E-06	5.4E-06	1.4E-06	1.4E-06	1.3E-06	2.3E-06	6.3E-06	6.1E-06	7.3E-06	3.2E-06	2.1E-06	7.5E-06	7.9E-06
p,p'-DDT	2.0E-03	5.3E-04	1.5E-03	1.6E-03	1.2E-03	1.4E-03	3.7E-03	1.5E-03	1.2E-03	1.0E-03	7.2E-03	2.3E-03	2.3E-03	1.6E-03	7.6E-03	2.8E-03	1.4E-03	6.3E-03	7.0E-03
Chlorfenson	4.6E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.0E-05	0.0E+00	6.4E-05	0.0E+00	0.0E+00	8.9E-05	9.4E-05	0.0E+00	5.7E-05	5.7E-05	0.0E+00	0.0E+00
Clomazone	1.1E-04	9.0E-05	1.8E-05	0.0E+00	5.4E-05	0.0E+00	0.0E+00	1.3E-04	0.0E+00	1.3E-04	0.0E+00	0.0E+00	1.9E-04	5.9E-05	0.0E+00	1.3E-04	1.3E-04	2.7E-04	1.0E-04
β-Endosulfan	7.2E-05	9.5E-06	2.9E-05	5.2E-06	0.0E+00	0.0E+00	5.6E-06	7.5E-06	2.1E-05	9.2E-06	0.0E+00	0.0E+00	1.4E-05	6.1E-06	0.0E+00	4.3E-05	0.0E+00	0.0E+00	5.2E-05

Table S9

RQ for fish in seawater.

Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	4.6E-0 6	1.8E-0 5	3.8E-0 5	1.5E-0 5	2.9E-0 5	7.8E-0 6	6.1E-0 5	1.7E-0 5	3.3E-0 5	4.8E-0 5	2.5E-0 5	2.4E-0 5	1.2E-0 5	1.5E-0 4	1.9E-0 5	3.8E-0 5	1.5E-0 5	9.4E-0 6	1.0E-0 5
Phorate	4.5E-0 3	0.0E+ 00	6.4E-0 2	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	3.8E-0 2	0.0E+ 00	1.8E-0 2	1.3E-0 2	8.7E-0 3	1.0E-0 1	1.4E-0 1	8.1E-0 3	2.1E-0 2	8.2E-0 2	6.6E-0 2	3.3E-0 3
Dichlofenthion	9.9E-0 3	2.7E-0 4	1.4E-0 3	0.0E+ 00	5.1E-0 4	1.7E-0 5	1.0E-0 4	1.3E-0 2	1.6E-0 4	1.2E-0 2	1.1E-0 3	0.0E+ 00	1.6E-0 2	3.6E-0 3	0.0E+ 00	1.1E-0 2	1.1E-0 2	9.3E-0 4	3.8E-0 4
Fenchlorphos	3.2E-0 3	0.0E+ 00	1.5E-0 4	0.0E+ 00	3.7E-0 5	3.7E-0 6	0.0E+ 00	5.1E-0 3	0.0E+ 00	4.6E-0 3	0.0E+ 00	0.0E+ 00	6.2E-0 3	8.3E-0 4	0.0E+ 00	3.8E-0 3	3.8E-0 3	0.0E+ 00	6.1E-0 5
Bromophos	7.2E-0 3	1.3E-0 3	1.5E-0 3	0.0E+ 00	9.7E-0 4	5.9E-0 4	6.3E-0 4	1.0E-0 2	5.3E-0 4	1.1E-0 2	9.6E-0 4	5.3E-0 4	1.4E-0 2	4.4E-0 3	1.2E-0 3	9.3E-0 3	9.3E-0 3	8.0E-0 4	1.3E-0 3
Isofenphos-met hyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophos-eth yl	8.3E-0 2	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.1E-0 1	0.0E+ 00	1.2E-0 1	0.0E+ 00	0.0E+ 00	1.5E-0 1	1.6E-0 2	0.0E+ 00	9.0E-0 2	9.0E-0 2	0.0E+ 00	2.7E-0 3
Ditalimfos	1.2E-0 4	0.0E+ 00	5.8E-0 5	1.2E-0 5	1.3E-0 5	5.0E-0 5	0.0E+ 00	1.5E-0 4	0.0E+ 00	1.1E-0 4	2.3E-0 5	0.0E+ 00	1.3E-0 4	1.0E-0 4	0.0E+ 00	9.3E-0 5	9.3E-0 5	6.5E-0 6	0.0E+ 00
Isofenphos-oxo n	3.9E-0 5	1.7E-0 5	2.5E-0 5	6.8E-0 6	6.8E-0 6	9.4E-0 6	1.4E-0 5	4.0E-0 5	5.8E-0 6	5.4E-0 5	7.6E-0 6	0.0E+ 00	6.7E-0 5	3.5E-0 5	5.8E-0 6	3.6E-0 5	3.6E-0 5	1.9E-0 5	1.1E-0 5
Chlorthiophos	5.3E-0 2	7.3E-0 3	1.0E-0 2	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	6.8E-0 2	0.0E+ 00	6.8E-0 2	3.4E-0 3	0.0E+ 00	9.2E-0 2	3.7E-0 2	0.0E+ 00	6.9E-0 2	6.9E-0 2	2.1E-0 3	5.4E-0 3
terbufos	1.5E-0 2	2.4E-0 3	2.1E-0 3	1.7E-0 3	9.3E-0 4	2.3E-0 3	3.9E-0 3	1.6E-0 2	9.1E-0 4	1.3E-0 2	2.0E-0 3	4.7E-0 4	1.6E-0 2	1.1E-0 2	8.3E-0 4	1.2E-0 2	1.6E-0 2	1.9E-0 3	5.2E-0 3
diazinon	2.8E-0 5	6.4E-0 7	3.8E-0 7	0.0E+ 00	0.0E+ 00	3.9E-0 7	9.8E-0 7	3.3E-0 5	9.9E-0 8	3.2E-0 5	0.0E+ 00	0.0E+ 00	4.2E-0 5	4.9E-0 6	0.0E+ 00	2.8E-0 5	3.4E-0 5	1.1E-0 6	3.0E-0 6
chlorpyrifos	3.0E-0 5	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	4.1E-0 5	0.0E+ 00	3.6E-0 5	0.0E+ 00	0.0E+ 00	5.2E-0 5	2.4E-0 6	0.0E+ 00	3.4E-0 5	5.4E-0 5	0.0E+ 00	0.0E+ 00
profenofos	8.2E-0 6	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.1E-0 5	0.0E+ 00	1.0E-0 5	0.0E+ 00	0.0E+ 00	1.4E-0 5	0.0E+ 00	0.0E+ 00	8.6E-0 6	1.3E-0 5	0.0E+ 00	2.8E-0 7
malathion	4.3E-0 4	3.6E-0 5	1.1E-0 4	0.0E+ 00	0.0E+ 00	1.3E-0 5	0.0E+ 00	4.1E-0 4	0.0E+ 00	1.3E-0 4	6.2E-0 4	0.0E+ 00	5.0E-0 4	3.9E-0 4	5.9E-0 5	7.5E-0 4	5.5E-0 4	0.0E+ 00	0.0E+ 00
parathion	2.6E-0 3	9.3E-0 4	1.7E-0 3	6.5E-0 4	3.1E-0 4	1.0E-0 3	1.0E-0 3	1.7E-0 3	1.0E-0 3	1.2E-0 3	8.9E-0 4	6.7E-0 4	1.3E-0 3	1.0E-0 2	6.0E-0 4	8.2E-0 4	1.3E-0 3	1.1E-0 3	1.8E-0 3
Profluralin	4.8E-0 5	0.0E+ 00	6.0E-0 6	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	3.4E-0 5	0.0E+ 00	3.3E-0 5	0.0E+ 00	0.0E+ 00	4.2E-0 5	1.5E-0 5	0.0E+ 00	2.7E-0 5	0.0E+ 00	0.0E+ 00	0.0E+ 00

Triallate	3.2E-04	1.7E-05	7.9E-05	0.0E+00	1.0E-05	8.6E-07	8.2E-06	4.0E-04	0.0E+00	3.8E-04	0.0E+00	0.0E+00	7.4E-04	2.0E-04	0.0E+00	3.4E-04	3.4E-04	8.5E-05	1.2E-05
Pentachloroaniline	4.7E-05	9.6E-06	1.4E-05	3.7E-06	6.2E-06	3.4E-06	8.3E-06	6.2E-05	0.0E+00	6.1E-05	4.3E-06	2.4E-06	7.3E-05	5.1E-05	2.4E-06	4.5E-05	4.5E-05	0.0E+00	1.0E-05
Vinclozolin	1.4E-05	5.3E-07	1.4E-06	0.0E+00	7.1E-08	0.0E+00	4.7E-07	1.6E-05	0.0E+00	1.4E-05	0.0E+00	0.0E+00	2.2E-05	5.4E-06	0.0E+00	1.2E-05	1.2E-05	0.0E+00	0.0E+00
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+00	0.0E+00	1.1E-03	0.0E+00	0.0E+00	2.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-03	1.7E-04	0.0E+00	3.3E-03	0.0E+00	1.1E-03	7.7E-04	6.8E-05	0.0E+00
Dichlobenil	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
α-HCH	3.0E-05	1.4E-05	3.9E-05	1.6E-05	1.5E-05	1.1E-05	1.4E-05	2.7E-05	1.7E-05	3.2E-05	3.2E-05	1.8E-05	4.0E-05	1.0E-05	2.3E-05	2.7E-05	2.2E-05	1.8E-05	1.7E-05
Hexachlorobenzene	2.1E-03	1.2E-03	5.2E-03	0.0E+00	0.0E+00	4.0E-04	6.0E-04	5.7E-03	3.0E-03	1.9E-03	2.5E-03	0.0E+00	0.0E+00	2.7E-03	0.0E+00	0.0E+00	7.5E-04	6.4E-04	1.7E-03
β-HCH	4.2E-05	2.2E-05	3.5E-05	1.9E-05	1.5E-05	1.4E-05	2.2E-05	3.4E-05	1.5E-05	3.3E-05	3.3E-05	1.1E-05	3.9E-05	1.1E-05	1.3E-05	2.7E-05	2.8E-05	1.7E-05	2.3E-05
γ-HCH	7.2E-04	6.3E-05	7.3E-04	0.0E+00	0.0E+00	0.0E+00	1.4E-05	5.7E-04	0.0E+00	6.9E-04	3.8E-04	0.0E+00	1.0E-03	2.6E-03	0.0E+00	3.4E-04	3.2E-04	0.0E+00	0.0E+00
δ-HCH	4.7E-05	0.0E+00	1.7E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.5E-05	0.0E+00	5.2E-05	0.0E+00	0.0E+00	7.2E-05	5.4E-05	0.0E+00	6.2E-05	0.0E+00	0.0E+00	0.0E+00
o,p'-DDE	1.1E-02	9.8E-04	1.3E-03	0.0E+00	6.6E-04	5.5E-04	7.7E-04	1.3E-03	0.0E+00	1.2E-03	5.5E-04	0.0E+00	1.6E-03	1.1E-03	0.0E+00	1.1E-03	5.5E-04	2.0E-03	1.2E-03
p,p'-DDE	1.7E-02	6.4E-03	7.7E-03	3.6E-03	4.1E-03	3.3E-03	4.1E-03	2.1E-03	3.0E-03	1.9E-03	5.1E-03	2.4E-03	2.3E-03	2.8E-03	5.1E-03	3.8E-03	2.3E-03	6.5E-03	8.5E-03
p,p'-DDD	4.0E-04	1.1E-04	2.4E-04	4.8E-04	0.0E+00	0.0E+00	0.0E+00	3.9E-04	6.6E-04	5.8E-04	5.5E-04	1.0E-04	5.9E-04	2.9E-04	1.9E-04	4.1E-04	3.1E-04	3.4E-04	3.5E-04
o,p'-DDT	3.1E-03	5.8E-04	1.4E-03	1.8E-03	7.8E-04	1.5E-03	2.9E-03	3.1E-03	7.8E-03	7.9E-03	7.5E-03	1.3E-03	3.6E-03	3.5E-03	4.2E-03	1.8E-03	1.2E-03	4.3E-03	4.5E-03
p,p'-DDT	7.8E-03	2.1E-03	6.0E-03	6.4E-03	4.7E-03	5.7E-03	1.5E-03	6.1E-03	4.8E-03	4.0E-03	2.8E-03	9.3E-03	9.0E-03	6.5E-03	3.0E-03	1.1E-03	5.7E-03	2.5E-03	2.8E-03
Chlorfenson	1.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-05	0.0E+00	2.1E-05	0.0E+00	0.0E+00	2.9E-05	3.1E-06	0.0E+00	1.9E-05	1.9E-05	0.0E+00	0.0E+00
Clomazone	1.5E-06	1.3E-07	2.6E-07	0.0E+00	7.6E-08	0.0E+00	0.0E+00	1.8E-06	0.0E+00	1.8E-06	0.0E+00	0.0E+00	2.6E-06	8.3E-07	0.0E+00	1.8E-06	1.8E-06	3.7E-06	1.4E-06
β-Endosulfan	7.2E-03	9.5E-04	2.9E-03	5.2E-04	0.0E+00	0.0E+00	5.6E-04	7.5E-03	2.1E-03	9.2E-03	0.0E+00	0.0E+00	1.4E-03	6.1E-03	0.0E+00	4.3E-03	0.0E+00	0.0E+00	5.2E-04

Table S10

RQ for algae in sediment.

Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	1.4E-07	5.9E-07	7.1E-07	1.3E-06	1.6E-06	2.0E-06	1.5E-06	8.8E-07	0.0E+00	1.3E-06	1.9E-06	1.2E-06	1.2E-06	0.0E+00	1.3E-06	1.6E-06	1.4E-06	4.7E-06	6.2E-06
Phorate	0.0E+00	0.0E+00	4.1E-06	5.5E-06	4.8E-06	0.0E+00	5.4E-06	0.0E+00	0.0E+00	0.0E+00	5.5E-06	0.0E+00	0.0E+00	9.0E-06	0.0E+00	4.8E-06	0.0E+00	0.0E+00	0.0E+00
Dichlofenthion	8.0E-10	4.2E-10	2.1E-09	5.1E-10	1.4E-09	7.1E-10	6.8E-10	1.3E-09	0.0E+00	1.4E-09	7.6E-10	9.9E-10	8.6E-10	1.5E-09	9.9E-10	2.0E-10	4.8E-10	3.1E-10	5.1E-10
Fenchlorphos	4.5E-09	7.7E-09	3.9E-09	1.4E-09	3.1E-09	5.4E-09	5.7E-10	3.9E-09	0.0E+00	2.3E-09	4.4E-09	2.7E-09	3.6E-09	5.8E-09	5.6E-09	0.0E+00	1.5E-09	7.7E-09	0.0E+00
Bromophos	1.2E-09	7.0E-09	5.8E-09	1.2E-09	7.9E-09	7.6E-09	5.1E-09	3.4E-09	0.0E+00	4.2E-09	2.2E-09	3.7E-09	3.5E-09	7.1E-09	3.7E-09	6.2E-10	2.5E-09	1.2E-09	2.8E-09
Isofenphomethyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophoethyl	1.0E-09	7.2E-09	9.0E-09	7.4E-10	6.7E-09	4.9E-09	8.5E-09	6.4E-09	1.9E-09	3.1E-09	1.3E-09	6.0E-09	5.2E-09	1.1E-09	5.1E-09	4.8E-09	3.0E-09	1.9E-09	5.8E-09
Ditalimfos	0.0E+00	0.0E+00	8.3E-08	0.0E+00	7.9E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-08	0.0E+00	0.0E+00	0.0E+00	3.1E-08	0.0E+00	0.0E+00
Isofenphooxon	3.4E-10	0.0E+00	1.8E-10	0.0E+00	4.6E-10	0.0E+00	0.0E+00	3.6E-10	0.0E+00	1.4E-10	6.1E-10	2.3E-10	9.4E-10	9.7E-10	2.7E-10	2.2E-10	2.8E-10	0.0E+00	4.1E-10
Chlorthiophos	4.7E-10	1.1E-09	2.9E-09	3.1E-09	2.2E-09	2.1E-09	2.2E-09	1.1E-09	0.0E+00	2.1E-09	2.8E-10	1.4E-09	2.0E-09	2.6E-09	2.9E-09	0.0E+00	9.1E-09	3.3E-09	1.5E-09
terbufos	0.0E+00	4.4E-10	0.0E+00	0.0E+00	7.2E-10	5.3E-09	0.0E+00	1.4E-09	0.0E+00	1.7E-09	0.0E+00	1.1E-09	1.5E-09	1.8E-09	0.0E+00	0.0E+00	1.1E-09	1.4E-09	1.4E-10
diazinon	2.2E-11	3.3E-11	3.2E-11	0.0E+00	8.9E-11	9.9E-11	1.4E-11	1.2E-11	0.0E+00	1.0E-11	8.9E-11	2.9E-11	9.7E-11	1.1E-11	2.5E-11	0.0E+00	6.0E-11	4.5E-11	0.0E+00
chlorpyrifos	5.4E-10	0.0E+00	1.4E-09	4.5E-10	5.2E-10	1.4E-09	6.9E-10	3.1E-10	0.0E+00	4.3E-10	2.1E-10	5.0E-10	5.9E-10	8.1E-10	1.3E-09	7.5E-10	4.5E-10	2.1E-09	9.2E-10
profenofos	0.0E+00	6.0E-10	2.8E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.8E-10	1.0E-09	1.6E-09	7.4E-10	2.0E-10	1.3E-09	3.8E-09	0.0E+00
malathion	0.0E+00	6.6E-09	0.0E+00	0.0E+00	1.0E-10	0.0E+00	6.0E-10	5.2E-10	0.0E+00	1.7E-09	0.0E+00	0.0E+00	2.6E-09	2.3E-09	0.0E+00	0.0E+00	9.3E-09	7.3E-09	0.0E+00
parathion	8.6E-10	1.3E-09	1.1E-09	0.0E+00	2.0E-09	5.2E-10	0.0E+00	6.2E-10	0.0E+00	0.0E+00	0.0E+00	1.9E-09	6.3E-09	1.8E-09	0.0E+00	0.0E+00	6.3E-09	8.4E-09	0.0E+00

Profluralin	0.0E+ 00	7.5E-1 2	5.8E-1 1	0.0E+ 00	2.5E-1 1	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	2.3E-1 1	0.0E+ 00	2.0E-1 0	8.0E-1 0	1.9E-1 0	0.0E+ 00	1.4E-1 1	2.2E-0 9	7.2E-1 1	3.3E-1 1
Triallate	8.8E-0 9	4.6E-0 9	7.1E-0 9	4.8E-0 9	6.0E-0 9	4.3E-0 9	2.8E-0 9	3.5E-0 9	0.0E+ 00	3.8E-0 9	5.0E-0 9	3.6E-0 8	4.0E-0 7	7.3E-0 8	1.1E-0 8	2.7E-0 9	2.0E-0 7	1.0E-0 8	1.2E-0 9
Pentachloroaniline	2.0E-0 7	2.5E-0 7	2.5E-0 7	2.0E-0 7	5.7E-0 7	6.5E-0 7	3.9E-0 7	1.4E-0 7	4.7E-0 8	1.3E-0 7	2.4E-0 7	8.6E-0 8	4.0E-0 7	5.8E-0 7	0.0E+ 00	4.7E-0 8	1.1E-0 6	3.0E-0 7	7.5E-0 8
Vinclozolin	1.1E-0 8	1.0E-0 8	1.5E-0 9	0.0E+ 00	1.5E-0 9	0.0E+ 00	1.4E-0 9	9.6E-0 9	0.0E+ 00	9.5E-1 0	0.0E+ 00	8.8E-0 8	6.7E-0 7	7.3E-0 8	1.1E-0 9	0.0E+ 00	4.9E-0 7	0.0E+ 00	4.7E-0 9
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00
Dichlobenil	5.5E-0 7	0.0E+ 00	1.3E-0 7	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	5.0E-0 7	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00
α-HCH	4.1E-1 1	7.0E-1 1	1.2E-1 0	2.2E-1 1	2.2E-1 0	1.0E-1 0	3.3E-1 1	1.1E-1 1	0.0E+ 00	3.1E-1 1	5.5E-1 1	4.5E-1 0	5.3E-0 9	8.0E-1 0	2.0E-1 0	3.6E-1 0	2.8E-0 9	2.5E-1 0	3.9E-1 1
Hexachlorobenzene	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00
β-HCH	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.3E-0 9	4.2E-0 9	1.2E-0 9	0.0E+ 00	2.7E-0 9	1.1E-0 8	0.0E+ 00	0.0E+ 00
γ-HCH	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00
δ-HCH	6.8E-1 1	0.0E+ 00	6.2E-1 0	2.5E-1 1	1.3E-0 9	8.9E-1 1	2.4E-1 0	1.3E-1 1	0.0E+ 00	1.3E-1 0	0.0E+ 00	1.8E-0 9	2.3E-0 8	2.1E-0 9	2.9E-0 9	3.8E-1 0	8.0E-0 9	1.1E-0 9	3.2E-1 2
o,p'-DDE	3.4E-1 0	3.7E-1 0	4.9E-1 0	2.6E-1 0	5.0E-1 0	4.1E-1 0	1.1E-1 0	1.6E-1 0	0.0E+ 00	1.1E-1 0	1.7E-1 0	1.8E-0 9	1.8E-0 8	3.0E-0 9	0.0E+ 00	1.6E-0 8	1.0E-0 8	7.5E-1 0	8.1E-1 1
p,p'-DDE	1.5E-0 9	2.8E-0 9	2.8E-0 9	2.0E-0 9	3.3E-0 9	8.4E-0 9	1.4E-0 9	1.3E-0 9	0.0E+ 00	2.3E-0 9	3.7E-0 9	3.9E-0 9	2.1E-0 8	7.8E-0 9	0.0E+ 00	3.8E-0 7	4.5E-0 8	1.4E-0 8	2.6E-0 9
p,p'-DDD	0.0E+ 00	1.4E-1 0	1.4E-1 0	1.1E-1 0	2.5E-1 0	2.8E-1 0	1.6E-1 0	7.6E-1 1	0.0E+ 00	3.1E-1 0	7.0E-1 0	4.4E-1 0	4.7E-0 9	1.4E-0 9	0.0E+ 00	6.0E-0 8	7.8E-0 9	5.2E-0 9	4.6E-1 0
o,p'-DDT	0.0E+ 00	2.2E-1 1	0.0E+ 00	0.0E+ 00	1.9E-1 0	1.2E-1 0	4.5E-1 1	0.0E+ 00	0.0E+ 00	5.6E-1 0	1.8E-0 9	1.1E-0 9	9.5E-0 9	3.0E-0 9	0.0E+ 00	6.0E-0 8	9.0E-0 9	8.6E-0 9	7.2E-1 0
p,p'-DDT	5.8E-0 9	0.0E+ 00	0.0E+ 00	4.4E-1 0	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	0.0E+ 00	1.5E-0 7	0.0E+ 00	5.0E-0 9	0.0E+ 00
Chlorfenson	1.6E-1 0	9.5E-1 1	6.0E-1 3	5.5E-1 1	1.6E-1 0	0.0E+ 00	3.3E-1 1	0.0E+ 00	0.0E+ 00	4.8E-1 1	0.0E+ 00	8.7E-1 0	8.1E-0 9	2.2E-0 9	0.0E+ 00	7.3E-1 1	5.8E-0 9	1.6E-1 0	3.1E-1 1
Clomazone	6.3E-1 0	3.1E-1 0	1.6E-1 0	6.3E-1 1	7.8E-1 0	5.2E-1 0	0.0E+ 00	0.0E+ 00	0.0E+ 00	4.1E-1 0	2.4E-1 0	2.8E-0 9	3.4E-0 8	6.1E-0 9	0.0E+ 00	2.6E-1 0	2.3E-0 8	1.5E-1 0	4.2E-1 0
β-Endosulfan	1.6E-1 0	3.3E-1 1	4.3E-1 1	4.8E-1 1	6.8E-1 1	1.5E-1 2	2.9E-1 1	0.0E+ 00	1.7E-1 1	0.0E+ 00	1.1E-1 0	1.5E-1 0	2.7E-0 9	9.0E-1 1	1.1E-0 9	0.0E+ 00	6.8E-1 0	0.0E+ 00	0.0E+ 00

Table S11

RQ for crustaceans in sediment.

Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	1.3E-03	5.7E-03	6.8E-03	1.2E-02	1.5E-02	1.9E-02	1.4E-02	8.5E-03	0.0E+00	1.2E-02	1.9E-02	1.2E-02	1.1E-02	0.0E+00	1.3E-02	1.6E-02	1.4E-02	4.5E-02	6.0E-02
Phorate	0.0E+00	0.0E+00	9.0E-03	1.2E-02	1.1E-02	0.0E+00	1.2E-02	0.0E+00	0.0E+00	0.0E+00	1.2E-02	0.0E+00	0.0E+00	2.0E-02	0.0E+00	1.0E-02	0.0E+00	0.0E+00	0.0E+00
Dichlofenthion	1.1E-06	5.7E-07	2.9E-06	6.9E-06	2.0E-06	9.7E-07	9.2E-06	1.8E-06	0.0E+00	1.9E-06	1.0E-06	1.4E-06	1.2E-06	2.1E-06	1.4E-06	2.8E-06	6.5E-06	4.2E-06	7.0E-07
Fenchlorphos	2.9E-06	5.0E-06	2.5E-06	9.1E-06	2.0E-06	3.5E-06	3.7E-06	2.5E-06	0.0E+00	1.5E-06	2.8E-06	1.8E-06	2.3E-06	3.7E-06	3.6E-06	0.0E+00	9.8E-06	5.0E-06	0.0E+00
Bromophos	5.8E-07	3.4E-06	2.8E-06	5.9E-06	3.8E-06	3.7E-06	2.5E-06	1.6E-06	0.0E+00	2.0E-06	1.1E-06	1.8E-06	1.7E-06	3.4E-06	1.8E-06	3.0E-06	1.2E-06	5.6E-06	1.4E-06
Isofenphomethyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophoethyl	1.6E-07	1.1E-06	1.4E-06	1.1E-06	1.0E-06	7.5E-07	1.3E-06	9.9E-07	2.9E-07	4.7E-07	1.9E-06	9.3E-06	8.1E-06	1.7E-06	7.8E-06	7.4E-06	4.7E-06	2.9E-06	9.0E-07
Ditalimfos	0.0E+00	0.0E+00	2.6E-04	0.0E+00	2.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.2E-03	0.0E+00	0.0E+00	0.0E+00	9.8E-04	0.0E+00	0.0E+00
Isofenphooxon	1.7E-05	0.0E+00	9.1E-06	0.0E+00	2.3E-06	0.0E+00	0.0E+00	1.8E-06	0.0E+00	7.1E-06	3.1E-06	1.2E-06	4.7E-06	4.9E-06	1.3E-06	1.1E-06	1.4E-06	0.0E+00	2.1E-06
Chlorthiophos	1.0E-07	2.3E-07	6.4E-07	6.8E-07	4.7E-07	4.5E-07	4.9E-07	2.4E-07	0.0E+00	4.6E-07	6.2E-07	3.0E-07	4.4E-07	5.6E-07	6.2E-07	0.0E+00	2.0E-07	7.1E-07	3.2E-07
terbufos	0.0E+00	1.5E-06	0.0E+00	0.0E+00	2.4E-06	1.8E-06	0.0E+00	4.7E-06	0.0E+00	5.8E-06	0.0E+00	3.7E-06	5.0E-06	6.2E-06	0.0E+00	0.0E+00	3.7E-06	4.7E-06	4.7E-06
diazinon	5.2E-08	7.9E-08	7.5E-08	0.0E+00	2.1E-07	2.3E-07	3.4E-07	2.9E-07	0.0E+00	2.4E-07	2.1E-07	6.9E-07	2.3E-07	2.6E-07	5.8E-07	0.0E+00	1.4E-07	1.1E-07	0.0E+00
chlorpyrifos	5.6E-11	0.0E+00	1.5E-11	4.7E-11	5.3E-11	1.5E-11	7.2E-11	3.2E-11	0.0E+00	4.4E-11	2.2E-11	5.1E-11	6.1E-11	8.4E-11	1.3E-11	7.8E-11	4.7E-11	2.2E-11	9.5E-12
profenofos	0.0E+00	5.9E-07	2.8E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.8E-07	1.0E-07	1.6E-07	7.4E-07	2.0E-07	1.3E-07	3.8E-07	0.0E+00
malathion	0.0E+00	1.7E-05	0.0E+00	0.0E+00	2.6E-05	0.0E+00	1.6E-05	1.4E-05	0.0E+00	4.4E-05	0.0E+00	0.0E+00	6.7E-05	6.1E-05	0.0E+00	0.0E+00	2.4E-05	1.9E-05	0.0E+00
parathion	1.1E-05	1.8E-05	1.4E-05	0.0E+00	2.7E-05	6.9E-06	0.0E+00	8.2E-05	0.0E+00	0.0E+00	0.0E+00	2.5E-05	8.3E-05	2.4E-05	0.0E+00	0.0E+00	8.3E-05	1.1E-05	0.0E+00
Profluralin	0.0E	1.8E-1	1.4E-0	0.0E+	5.9E-1	0.0E+	0.0E+	0.0E+	0.0E+	5.4E-1	0.0E+	4.8E-0	1.9E-0	4.4E-0	0.0E+	3.3E-1	5.2E-0	1.7E-0	7.8E-1

	+00	0	9	00	0	00	00	00	00	0	00	9	8	9	00	0	8	9	0
Triallate	4.3E-08	2.3E-08	3.5E-08	2.3E-08	2.9E-08	2.1E-08	1.4E-08	1.7E-08	0.0E+00	1.9E-08	2.5E-08	1.8E-07	1.9E-07	3.6E-07	5.5E-07	1.3E-07	9.9E-07	5.1E-07	6.1E-07
Pentachloroaniline	5.7E-07	7.1E-07	7.2E-07	5.7E-07	1.6E-06	1.8E-06	1.1E-06	4.1E-06	1.3E-06	3.7E-06	6.9E-06	2.5E-06	1.2E-06	1.7E-06	0.0E+00	1.4E-06	3.0E-06	8.7E-06	2.1E-06
Vinclozolin	1.8E-09	1.6E-09	2.5E-10	0.0E+00	2.4E-10	0.0E+00	2.3E-10	1.5E-09	0.0E+00	1.5E-10	0.0E+00	1.4E-09	1.1E-09	1.2E-09	1.8E-10	0.0E+00	7.9E-09	0.0E+00	7.5E-10
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Dichlobenil	7.2E-07	0.0E+00	1.7E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.6E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
α -HCH	8.2E-10	1.4E-09	2.3E-09	4.3E-10	4.3E-09	2.1E-09	6.6E-10	2.2E-10	0.0E+00	6.1E-10	1.1E-09	8.9E-09	1.1E-09	1.6E-09	3.9E-09	7.2E-09	5.5E-09	4.9E-09	7.8E-10
Hexachlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
β -HCH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E-09	2.5E-09	7.0E-09	0.0E+00	1.6E-08	6.5E-09	0.0E+00	0.0E+00
γ -HCH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
δ -HCH	5.5E-11	0.0E+00	5.0E-10	2.0E-10	1.1E-09	7.2E-10	1.9E-10	1.1E-10	0.0E+00	1.1E-10	0.0E+00	1.5E-09	1.9E-09	1.7E-09	2.3E-09	3.1E-10	6.5E-09	8.8E-10	2.6E-10
o,p'-DDE	7.9E-09	8.5E-09	1.1E-08	6.0E-09	1.2E-08	9.4E-09	2.5E-09	3.7E-09	0.0E+00	2.6E-09	3.9E-09	4.2E-08	4.2E-08	7.0E-08	0.0E+00	3.7E-08	2.3E-08	1.7E-08	1.9E-09
p,p'-DDE	4.0E-08	7.7E-08	7.6E-08	5.4E-08	9.1E-08	2.3E-07	3.8E-08	3.5E-08	0.0E+00	6.4E-08	1.0E-07	1.1E-07	5.9E-07	2.1E-07	0.0E+00	1.1E-07	1.2E-07	3.9E-07	7.2E-08
p,p'-DDD	0.0E+00	4.9E-10	5.0E-10	3.7E-10	8.5E-10	9.5E-10	5.3E-10	2.6E-10	0.0E+00	1.1E-09	2.4E-09	1.5E-09	1.6E-09	4.8E-09	0.0E+00	2.1E-09	2.7E-09	1.8E-09	1.6E-09
o,p'-DDT	0.0E+00	1.2E-10	0.0E+00	0.0E+00	1.0E-10	6.8E-10	2.4E-10	0.0E+00	0.0E+00	3.1E-10	9.7E-10	5.8E-10	5.2E-10	1.6E-10	0.0E+00	3.3E-10	4.9E-10	4.7E-10	3.9E-10
p,p'-DDT	1.0E-08	0.0E+00	0.0E+00	7.7E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.6E-07	0.0E+00	8.8E-08	0.0E+00
Chlorfenson	1.8E-10	1.1E-10	6.7E-10	6.2E-10	1.8E-10	0.0E+00	3.7E-10	0.0E+00	0.0E+00	5.4E-10	0.0E+00	9.7E-10	9.1E-10	2.4E-09	0.0E+00	8.2E-10	6.5E-10	1.8E-10	3.5E-10
Clomazone	1.4E-09	7.1E-10	3.7E-10	1.4E-10	1.8E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00	9.5E-10	5.5E-10	6.4E-09	7.8E-09	1.4E-09	0.0E+00	6.0E-10	5.2E-09	3.5E-10	9.6E-10
β -Endosulfan	2.0E-09	4.1E-10	5.4E-10	6.0E-10	8.4E-10	1.8E-10	3.6E-10	0.0E+00	2.1E-10	0.0E+00	1.4E-09	1.9E-09	3.3E-09	1.1E-09	1.4E-09	0.0E+00	8.5E-09	0.0E+00	0.0E+00

Table S12

RQ for fish in sediment.																			
Common	B08	B10	B12	B15	B17	B19	B22	B24	B26	B29	B32	B35	B38	B40	L19	L34	L52	L69	L79
Methacrifos	2.4E-0	1.1E-0	1.3E-0	2.3E-0	2.8E-0	3.6E-0	2.6E-0	1.6E-0	0.0E+0	2.3E-0	3.4E-0	2.2E-0	2.1E-0	0.0E+0	2.4E-0	2.9E-0	2.5E-0	8.4E-0	1.1E-0
	7	6	6	6	6	6	6	6	0	6	6	6	5	0	5	6	5	6	6
Phorate	0.0E+	0.0E+	1.6E-0	2.2E-0	1.9E-0	0.0E+0	2.2E-0	0.0E+0	0.0E+0	0.0E+0	2.2E-0	0.0E+0	0.0E+0	3.6E-0	0.0E+0	1.9E-0	0.0E+0	0.0E+0	0.0E+0
	00	00	3	3	3	0	3	0	0	0	3	0	0	3	0	3	0	0	0
Dichlofenthion	1.0E-0	5.3E-0	2.7E-0	6.5E-0	1.8E-0	9.1E-0	8.7E-0	1.7E-0	0.0E+0	1.7E-0	9.7E-0	1.3E-0	1.1E-0	2.0E-0	1.3E-0	2.6E-0	6.1E-0	3.9E-0	6.6E-0
	7	8	7	8	7	8	8	7	0	7	8	6	5	6	6	8	6	7	8
Fenchlorphos	1.4E-0	2.4E-0	1.2E-0	4.4E-0	9.5E-0	1.7E-0	1.8E-0	1.2E-0	0.0E+0	7.2E-0	1.4E-0	8.5E-0	1.1E-0	1.8E-0	1.7E-0	0.0E+0	4.7E-0	2.4E-0	0.0E+0
	7	7	7	8	8	7	8	7	0	8	7	7	5	6	6	0	6	7	0
Bromophos	4.6E-0	2.7E-0	2.2E-0	4.7E-0	3.1E-0	2.9E-0	2.0E-0	1.3E-0	0.0E+0	1.6E-0	8.7E-0	1.4E-0	1.4E-0	2.7E-0	1.4E-0	2.4E-0	9.6E-0	4.5E-0	1.1E-0
	8	7	7	8	7	7	7	7	0	7	8	6	5	6	6	8	6	7	7
Isofenphomethyl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromophoethyl	1.3E-0	9.3E-0	1.2E-0	9.7E-0	8.8E-0	6.3E-0	1.1E-0	8.3E-0	2.5E-0	4.0E-0	1.6E-0	7.9E-0	6.8E-0	1.4E-0	6.6E-0	6.3E-0	3.9E-0	2.5E-0	7.6E-0
	7	7	6	8	7	7	6	7	7	7	6	6	5	5	6	7	5	6	7
Ditalimfos	0.0E+	0.0E+	4.7E-0	0.0E+	4.5E-0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	2.2E-0	0.0E+0	0.0E+0	0.0E+0	1.8E-0	0.0E+0	0.0E+0
	00	00	7	00	7	0	0	0	0	0	0	0	6	0	0	0	6	0	0
Isofenphooxon	1.2E-0	0.0E+	6.5E-0	0.0E+	1.6E-0	0.0E+0	0.0E+0	1.3E-0	0.0E+0	5.1E-0	2.2E-0	8.4E-0	3.4E-0	3.5E-0	9.5E-0	7.7E-0	1.0E-0	0.0E+0	1.5E-0
	7	00	8	00	8	0	0	8	0	8	8	8	6	7	7	9	6	0	8
Chlorthiophos	4.3E-0	9.6E-0	2.7E-0	2.9E-0	2.0E-0	1.9E-0	2.0E-0	1.0E-0	0.0E+0	1.9E-0	2.6E-0	1.2E-0	1.8E-0	2.4E-0	2.6E-0	0.0E+0	8.3E-0	3.0E-0	1.4E-0
	8	8	7	7	7	7	7	7	0	7	8	6	5	6	6	0	6	7	7
terbufos	0.0E+	1.2E-0	0.0E+	0.0E+	1.9E-0	1.4E-0	0.0E+0	3.7E-0	0.0E+0	4.6E-0	0.0E+0	3.0E-0	4.0E-0	5.0E-0	0.0E+0	0.0E+0	2.9E-0	3.7E-0	3.8E-0
	00	7	00	00	7	6	0	7	0	7	0	6	5	6	0	0	4	7	8
diazinon	3.0E-1	4.5E-1	4.3E-1	0.0E+	1.2E-0	1.3E-0	1.9E-1	1.6E-0	0.0E+0	1.4E-0	1.2E-1	3.9E-0	1.3E-0	1.5E-0	3.3E-0	0.0E+0	8.0E-0	6.1E-1	0.0E+0
	0	0	0	00	9	9	0	9	0	9	1	9	7	8	9	0	7	0	0
chlorpyrifos	1.9E-1	0.0E+	5.0E-1	1.6E-1	1.8E-1	5.1E-1	2.5E-1	1.1E-1	0.0E+0	1.5E-1	7.5E-1	1.8E-0	2.1E-0	2.9E-0	4.5E-1	2.7E-1	1.6E-0	7.6E-1	3.3E-1
	0	00	0	0	0	0	1	0	0	0	1	9	8	9	0	1	7	0	1
profenofos	0.0E+	7.8E-1	3.6E-1	0.0E+	0.0E+	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	1.0E-0	1.3E-0	2.1E-0	9.7E-1	2.7E-1	1.7E-0	5.0E-0	0.0E+0
	00	0	0	00	00	0	0	0	0	0	0	8	7	8	0	0	6	9	0
malathion	0.0E+	3.7E-0	0.0E+	0.0E+	5.7E-0	0.0E+0	3.4E-0	2.9E-0	0.0E+0	9.7E-0	0.0E+0	0.0E+0	1.4E-0	1.3E-0	0.0E+0	0.0E+0	5.3E-0	4.2E-0	0.0E+0
	00	6	00	00	8	0	7	7	0	7	0	0	5	6	0	0	5	6	0
parathion	2.2E-0	3.4E-0	2.7E-0	0.0E+	5.2E-0	1.3E-0	0.0E+0	1.6E-0	0.0E+0	0.0E+0	0.0E+0	4.8E-0	1.6E-0	4.5E-0	0.0E+0	0.0E+0	1.6E-0	2.1E-0	0.0E+0
	8	8	8	00	8	8	0	8	0	0	0	8	6	7	0	0	5	7	0

Profluralin	0.0E+00	5.2E-11	4.0E-10	0.0E+00	1.7E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.6E-10	0.0E+00	1.4E-09	5.5E-09	1.3E-09	0.0E+00	9.5E-10	1.5E-09	4.9E-10	2.2E-10
Triallate	2.5E-08	1.3E-08	2.0E-08	1.3E-08	1.7E-08	1.2E-08	7.9E-09	9.8E-09	0.0E+00	1.1E-08	1.4E-08	1.0E-07	1.1E-07	2.1E-07	3.1E-07	7.7E-07	5.7E-07	2.9E-07	3.5E-07
Pentachloroaniline	1.8E-07	2.3E-07	2.3E-07	1.8E-07	5.2E-07	5.8E-07	3.5E-07	1.3E-07	4.3E-07	1.2E-07	2.2E-07	7.8E-07	3.7E-07	5.3E-07	0.0E+00	4.3E-07	9.5E-07	2.8E-07	6.8E-07
Vinclozolin	2.8E-09	2.5E-09	3.8E-10	0.0E+00	3.8E-10	0.0E+00	3.6E-10	2.4E-09	0.0E+00	2.4E-10	0.0E+00	2.2E-09	1.7E-09	1.8E-09	2.7E-10	0.0E+00	1.2E-09	0.0E+00	1.2E-09
Cyflufenamid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kresoxim-methyl	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Dichlobenil	1.3E-07	0.0E+00	3.1E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.2E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
α-HCH	1.4E-10	2.5E-10	4.1E-10	7.6E-11	7.6E-11	3.6E-11	1.2E-11	3.9E-11	0.0E+00	1.1E-11	1.9E-11	1.6E-10	1.9E-10	2.8E-10	6.9E-11	1.3E-10	9.7E-10	8.6E-11	1.4E-11
Hexachlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
β-HCH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.3E-09	4.0E-09	1.1E-09	0.0E+00	2.6E-09	1.0E-09	0.0E+00	0.0E+00
γ-HCH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
δ-HCH	2.7E-10	0.0E+00	2.4E-10	1.0E-10	5.2E-10	3.5E-10	9.4E-11	5.2E-11	0.0E+00	5.3E-11	0.0E+00	7.2E-10	9.2E-10	8.3E-10	1.1E-10	1.5E-10	3.2E-10	4.3E-10	1.3E-11
o,p'-DDE	4.8E-09	5.1E-09	6.8E-09	3.6E-09	6.9E-09	5.6E-09	1.5E-09	2.2E-09	0.0E+00	1.5E-09	2.4E-09	2.5E-09	2.5E-09	4.2E-09	0.0E+00	2.2E-09	1.4E-09	1.0E-09	1.1E-09
p,p'-DDE	2.0E-08	3.8E-08	3.8E-08	2.7E-08	4.5E-08	1.2E-08	1.9E-08	1.7E-08	0.0E+00	3.2E-08	5.1E-08	5.3E-08	3.0E-08	1.1E-08	0.0E+00	5.3E-08	6.2E-08	2.0E-08	3.6E-08
p,p'-DDD	0.0E+00	2.9E-10	3.0E-10	2.2E-10	5.1E-10	5.7E-10	3.2E-10	1.6E-10	0.0E+00	6.4E-11	1.4E-10	9.0E-11	9.7E-10	2.9E-10	0.0E+00	1.2E-10	1.6E-10	1.1E-10	9.4E-11
o,p'-DDT	0.0E+00	6.9E-11	0.0E+00	0.0E+00	5.7E-11	3.9E-11	1.4E-11	0.0E+00	0.0E+00	1.7E-11	5.5E-11	3.3E-11	3.0E-11	9.3E-11	0.0E+00	1.9E-11	2.8E-11	2.7E-11	2.2E-11
p,p'-DDT	4.0E-08	0.0E+00	0.0E+00	3.0E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-08	0.0E+00	3.5E-08	0.0E+00
Chlorfenson	6.0E-11	3.5E-11	2.2E-11	2.0E-11	5.9E-11	0.0E+00	1.2E-11	0.0E+00	0.0E+00	1.8E-11	0.0E+00	3.2E-11	3.0E-11	8.0E-11	0.0E+00	2.7E-11	2.1E-11	5.8E-11	1.1E-11
Clomazone	2.0E-11	9.8E-12	5.2E-12	2.0E-12	2.5E-12	1.7E-12	0.0E+00	0.0E+00	0.0E+00	1.3E-11	7.7E-12	9.0E-12	1.1E-11	1.9E-11	0.0E+00	8.3E-12	7.2E-12	4.9E-12	1.3E-12
β-Endosulfan	2.0E-07	4.1E-08	5.4E-08	6.0E-08	8.4E-08	1.8E-08	3.6E-08	0.0E+00	2.1E-08	0.0E+00	1.4E-08	1.9E-08	3.3E-08	1.1E-08	1.4E-08	0.0E+00	8.5E-08	0.0E+00	0.0E+00

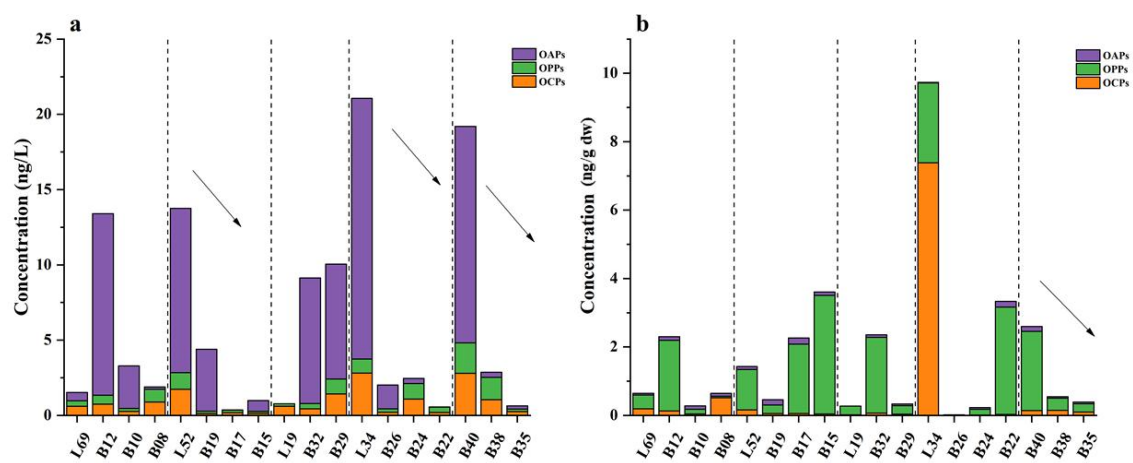


Figure S1

Concentration variation of pesticides with the offshore distances in (a) seawater (b) sediment.