

Table A4. Reporting limits, sampling frequency, use, and class for the pesticides and degradation products analyzed in filtered water, Columbia River Estuary, 2004–05

[Analytes shown in bold type and shaded were detected in this study; NWQL schedule, schedule number used at USGS National Water-Quality Laboratory; CAS, Chemical Abstract Service; reporting limits listed in micrograms per liter; CAAT, chlordiamino-*s*-triazine; CEAT, 2-chloro-6-ethylamino-4-amino-*s*-triazine; CIAT, 2-chloro-4-isopropylamino-6-amino-*s*-triazine; EPTC, *S*-ethyl dipropyl thiocarbamate; DDE, dichlorodiphenyldichloroethylene; DDT, dichlorodiphenyltrichloroethylene; HCH, hexachlorocyclohexane; MCPA, (4-chloro-2-methylphenoxy)acetic acid; MCPB, 4-(4-chloro-2-methylphenoxy)butanoic acid; OIET, 2-hydroxy-4-isopropylamino-6-ethylamino-*s*-triazine; NA, not available; D, degradation product; Def, defoliant; F, fungicide; Fum, fumigant; H, herbicide; I, insecticide; N, nematocide; PGR, plant growth regulator; S, stimulant; --, no data]

Analyte	Parameter	NWQL	CAS number	Use	Class	Parent compound	Reporting limits	Sampling frequency
	code	schedule						
Acetochlor	49260	2001	34256-82-1	H	Chloroacetamide	--	0.006	Monthly
Acifluorfen	49315	2060	50594-66-6	H	Diphenyl ether	--	0.007, 0.028	Quarterly
Alachlor	46342	2001	15972-60-8	H	Chloroacetamide	--	0.005	Monthly
Aldicarb	49312	2060	116-06-3	I	Carbamate	--	0.040	Quarterly
Aldicarb sulfone	49313	2060	1646-88-4	D	Carbamate	Aldicarb	0.020, 0.018	Quarterly
Aldicarb sulfoxide	49314	2060	1646-87-3	D	Carbamate	Aldicarb	0.008, 0.022	Quarterly
2-Amino-N-isopropylbenzamide	61617	2002	30391-89-0	D	Benzothiadiazole	Bentazon	0.005	Quarterly
<b>Atrazine</b>	39632	2001	1912-24-9	H	Triazine	--	0.010, 0.007	Monthly
Azinphos-methyl	82686	2001	86-50-0	I	Organophosphate	--	0.050	Monthly
Azinphos-methyl-oxon	61635	2002	961-22-8	D	Organophosphate	Azinphos-methyl	0.070, 0.016	Quarterly
Bendiocarb	50299	2060	22781-23-3	I	Carbamate	--	0.025, 0.020	Quarterly
Benfluralin	82673	2001	1861-40-1	H	Dinitroaniline	--	0.010	Monthly
Benomyl	50300	2060	17804-35-2	F	Benzimidazole	--	0.004, 0.022	Quarterly
Bensulfuron-methyl	61693	2060	83055-99-6	H	Sulfonylurea	--	0.016, 0.018	Quarterly
<b>Bentazon</b>	38711	2060	25057-89-0	H	Nitrogen-heterocycle	--	0.011, 0.012	Quarterly
Bifenthrin	61580	2002	82657-04-3	I	Pyrethroid	--	0.005	Quarterly
<b>Bromacil</b>	04029	2060	314-40-9	H	Uracil	--	0.033, 0.018	Quarterly
<b>Bromoxynil</b>	49311	2060	1689-84-5	H	Benzonitrile	--	0.017, 0.028	Quarterly
Butylate	04028	2001	2008-41-5	H	Thiocarbamate	--	0.004	Monthly
CAAT	04039	2060	3397-62-4	D	Triazine	Atrazine	0.040	Quarterly
<b>Caffeine</b>	50305	2060	58-08-2	S	Nitrogen-heterocycle	--	0.010, 0.018	Quarterly
<b>Carbaryl</b>	49310	2060	63-25-2	I	Carbamate	--	0.028, 0.018	Quarterly
<b>Carbaryl</b>	82680	2001	63-25-2	I	Carbamate	--	0.041	Monthly
Carbofuran	49309	2060	1563-66-2	I	Carbamate	--	0.006, 0.016	Quarterly
Carbofuran	82674	2001	1563-66-2	I	Carbamate	--	0.020	Monthly
CEAT	04038	2060	1007-28-9	D	Triazine	Atrazine	0.010, 0.080	Quarterly
Chloramben, methyl ester	61188	2060	7286-84-2	H	Chlorophenoxy acid	--	0.018, 0.024	Quarterly
Chlorimuron-ethyl	50306	2060	90982-32-4	H	Sulfonylurea	--	0.010, 0.032	Quarterly
4-Chloro-2-methylphenol	61633	2002	1570-64-5	D	Chlorophenoxy acid	MCPA, MCPB	0.006	Quarterly
2-Chloro-2,6-diethylacetanilide	61618	2002	6967-29-9	D	Chloroacetamide	Alachlor	0.005	Quarterly
4-Chlorobenzylmethyl sulfone	61634	2002	98-57-7	D	Thiocarbamate	Thiobencarb	0.010	Quarterly
3(4-Chlorophenyl)-1-methyl urea	61692	2060	5352-88-5	D	Phenyl urea	Monuron, Monolinuron	0.024, 0.036	Quarterly
<b>Chlorpyrifos</b>	38933	2001	2921-88-2	I	Organophosphate	--	0.005	Monthly
Chlorpyrifos, oxygen analog	61636	2002	5598-15-2	D	Organophosphate	Chlorpyrifos	0.056	Quarterly
<b>CIAT</b>	04040	2001	6190-65-4	D	Triazine	Atrazine	0.006	Monthly
Clopyralid	49305	2060	1702-17-6	H	Pyridine	--	0.014, 0.024	Quarterly
Cyanazine	04041	2001	21725-46-2	H	Triazine	--	0.018	Monthly
Cycloate	04031	2002	1134-23-2	H	Thiocarbamate	--	0.005	Quarterly
2-(4- <i>tert</i> -butylphenoxy)-Cyclohexanol	61637	2002	1942-71-8	D	Miscellaneous	Propargite	0.005	Quarterly
Cyfluthrin	61585	2002	68359-37-5	I	Pyrethroid	--	0.008, 0.027	Quarterly

<i>lambda</i> -Cyhalothrin	61595	2002	91465-08-6	I	Pyrethroid	--	0.009	Quarterly
Cypermethrin	61586	2002	52315-07-8	I	Pyrethroid	--	0.009	Quarterly
<b>2,4-D</b>	39732	2060	94-75-7	H	Chlorophenoxy acid	--	0.022, 0.038	Quarterly
2,4-D methyl ester	50470	2060	1928-38-7	H	Chlorophenoxy acid	--	0.009, 0.016	Quarterly
2,4-DB	38746	2060	94-82-6	H	Chlorophenoxy acid	--	0.016, 0.020	Quarterly
<b>DCPA</b>	82682	2001	1861-32-1	H	Organochlorine	--	0.003	Monthly
DCPA monoacid	49304	2060	887-54-7	H, D	Chlorophenoxy acid	DCPA	0.012, 0.028	Quarterly
<i>p,p'</i> -DDE	34653	2001	72-55-9	D	Organochlorine	DDT	0.003	Monthly
Desulfinylfipronil	62170	2001	NA	D	Phenyl pyrazole	Fipronil	0.012	Monthly
Desulfinylfipronil amide	62169	2001	NA	D	Phenyl pyrazole	Fipronil	0.029	Monthly
Diazinon	39572	2001	333-41-5	I	Organophosphate	--	0.005	Monthly
<b>Dicamba</b>	38442	2060	1918-00-9	H	Benzoic acid	--	0.013, 0.036	Quarterly
2,5-Dichloroaniline	61614	2002	95-82-9	D	Chlorophenoxy acid	Chloramben	0.007	Quarterly
<b>3,4-Dichloroaniline</b>	61625	2002	95-76-1	D	Phenyl urea, Chloroacetamide	Diuron, Propanil, Linuron, Neburon	0.005	Quarterly
3,5-Dichloroaniline	61627	2002	626-43-7	D	Amide	Iprodione	0.004	Quarterly
4,4'-Dichlorobenzophenone	61631	2002	90-98-2	D	Organochlorine	DDT, Dicofol	0.007	Quarterly
Dichlorprop	49302	2060	120-36-5	H	Chlorophenoxy acid	--	0.014, 0.028	Quarterly
Dichlorvos	38775	2002	62-73-7	Fum, D	Organophosphate	Naled	0.012	Quarterly
Dicrotophos	38454	2002	141-66-2	I	Organothiophosphate	--	0.084	Quarterly
Dieldrin	39381	2001	60-57-1	I	Organochlorine	--	0.009	Monthly
2,6-Diethylaniline	82660	2001	579-66-8	D	Chloroacetamide	Alachlor	0.006	Monthly
Dimethoate	82662	2002	60-51-5	I	Organothiophosphate	--	0.006	Quarterly
(E)-Dimethomorph	79844	2002	110488-70-5	F	Nitrogen-heterocycle	--	0.020	Quarterly
(Z)-Dimethomorph	79845	2002	110488-70-5	F	Nitrogen-heterocycle	--	0.046	Quarterly
Dinoseb	49301	2060	88-85-7	H,I	Dinitrophenol	--	0.012, 0.038	Quarterly
Diphenamid	04033	2060	957-51-7	H	Acetamide	--	0.026, 0.010	Quarterly
Disulfoton	82677	2001	298-04-4	I	Organophosphate	--	0.021	Monthly
Disulfoton sulfone	61640	2002	218208	D	Organophosphate	Disulfoton	0.006	Quarterly
Disulfoton sulfoxide	61641	2002	218239	D	Organophosphate	Disulfoton	0.036	Quarterly
<b>Diuron</b>	49300	2060	330-54-1	H	Phenyl urea	--	0.015	Quarterly
<i>alpha</i> -Endosulfan	34362	2002	959-98-8	I	Organochlorine	--	0.005	Quarterly
<i>beta</i> -Endosulfan	34357	2002	33213-65-9	I	Organochlorine	--	0.014	Quarterly
Endosulfan ether	61642	2002	3369-52-6	D	Organochlorine	<i>alpha</i> -Endosulfan, <i>beta</i> -Endosulfan	0.007	Quarterly
Endosulfan sulfate	61590	2002	1031-07-8	D	Organochlorine	<i>alpha</i> -Endosulfan, <i>beta</i> -Endosulfan	0.014	Quarterly
<b>EPTC</b>	82668	2001	759-94-4	H	Thiocarbamate	--	0.004	Monthly
Ethalfuralin	82663	2001	55283-68-6	H	Dinitroaniline	--	0.009	Monthly
Ethion	82346	2002	563-12-2	I	Organothiophosphate	--	0.004	Quarterly
Ethion monoxon	61644	2002	17356-42-2	D	Organothiophosphate	Ethion	0.002	Quarterly
<b>Ethoprop</b>	82672	2001	13194-48-4	N,I	Organophosphate	--	0.005	Monthly
2-Ethyl-6-methylaniline	61620	2002	24549-06-2	D	Chloroacetamide	Metolachlor	0.005	Quarterly
O-Ethyl-O-methyl-S-propylphosphorothioate	61660	2002	76960-87-7	D	Organophosphate	Ethoprop	0.005	Quarterly
Fenamiphos	61591	2002	22224-92-6	N	Organothiophosphate	--	0.029	Quarterly
Fenamiphos sulfone	61645	2002	31972-44-8	D	Organothiophosphate	Fenamiphos	0.049	Quarterly
Fenamiphos sulfoxide	61646	2002	31972-43-7	D	Organothiophosphate	Fenamiphos	0.039	Quarterly
Fenthion	38801	2002	55-38-9	I	Organothiophosphate	--	0.015	Quarterly
Fenthion sulfoxide	61647	2002	3761-41-9	D	Organothiophosphate	Fenthion	0.008	Quarterly
Fenuron	49297	2060	101-42-8	H	Phenyl urea	--	0.019	Quarterly
Fipronil	62166	2001	120068-37-3	I	Phenyl pyrazole	--	0.016	Monthly
Fipronil sulfide	62167	2001	120067-83-6	D	Phenyl pyrazole	Fipronil	0.013	Monthly
Fipronil sulfone	62168	2001	120068-36-2	D	Phenyl pyrazole	Fipronil	0.024	Monthly

Flumetralin	61592	2002	62924-70-3	PGR	Dinitroaniline	--	0.004, 0.003	Quarterly
Flumetsulam	61694	2060	98967-40-9	H	Sulfonamide	--	0.011, 0.040	Quarterly
Fluometuron	38811	2060	2164-17-2	H	Phenyl urea	--	0.031, 0.016	Quarterly
Fonofos	04095	2001	944-22-9	I	Organophosphate	--	0.003	Monthly
<i>alpha</i> -HCH	34253	2001	319-84-6	I	Organochlorine	--	0.005	Monthly
<b>Hexazinone</b>	04025	2002	51235-04-2	H	Triazine	--	0.013	Quarterly
3-Hydroxycarbofuran	49308	2060	16655-82-6	D	Carbamate	Carbofuran	0.006, 0.008	Quarterly
Imazaquin	50356	2060	81335-37-7	H	Imidazolinone	--	0.016, 0.036	Quarterly
Imazethapyr	50407	2060	81335-77-5	H	Imidazolinone	--	0.017, 0.038	Quarterly
Imidacloprid	61695	2060	138261-41-3	I	Nitrogen-heterocycle	--	0.007, 0.020	Quarterly
Iprodione	61593	2002	36734-19-7	F	Amide	--	0.387, 0.538	Quarterly
Isofenphos	61594	2002	25311-71-1	I	Organothiophosphate	--	0.003	Quarterly
Lindane	39341	2001	58-89-9	I	Organochlorine	--	0.004	Monthly
Linuron	38478	2060	330-55-2	H	Phenyl urea	--	0.014	Quarterly
Linuron	82666	2001	330-55-2	H	Phenyl urea	--	0.035	Monthly
Malaoxon	61652	2002	1634-78-2	D	Organophosphate	Malathion	0.030	Quarterly
<b>Malathion</b>	39532	2001	121-75-5	I	Organophosphate	--	0.027	Monthly
<b>MCPA</b>	38482	2060	94-74-6	H	Chlorophenoxy acid	--	0.016, 0.030	Quarterly
MCPB	38487	2060	94-81-5	H	Chlorophenoxy acid	--	0.015, 0.010	Quarterly
Metalaxyl	50359	2060	57837-19-1	F	Acylalanine	--	0.020, 0.012	Quarterly
Metalaxyl	61596	2002	57837-19-1	F	Amino acid derivative	--	0.005	Quarterly
Methidathion	61598	2002	950-37-8	I	Organothiophosphate	--	0.006	Quarterly
Methiocarb	38501	2060	2032-65-7	I	Carbamate	--	0.008, 0.010	Quarterly
Methomyl	49296	2060	16752-77-5	I	Carbamate	--	0.004, 0.020	Quarterly
Methyl parathion	82667	2001	298-00-0	I	Organophosphate	--	0.015	Monthly
<i>cis</i> -Methyl-3-(2,2-dichlorovinyl)-2,2-dimethyl-(1-cyclopropane)-carboxylate	79842	2002	61898-95-1	D	Pyrethroid	Permethrin, Cypermethrin, Cyfluthrin	0.022	Quarterly
<i>trans</i> -Methyl-3-(2,2-dichlorovinyl)-2,2-dimethyl-(1-cyclopropane)-carboxylate	79843	2002	61898-95-1	D	Pyrethroid	Permethrin, Cypermethrin, Cyfluthrin	0.006	Quarterly
<b>Metolachlor</b>	39415	2001	51218-45-2	H	Chloroacetamide	--	0.013, 0.006	Monthly
<b>Metribuzin</b>	82630	2001	21087-64-9	H	Triazine	--	0.006	Monthly
<b>Metsulfuron-methyl</b>	61697	2060	74223-64-6	H	Sulfonylurea	--	0.025	Quarterly
Molinate	82671	2001	2212-67-1	H	Thiocarbamate	--	0.003	Monthly
Myclobutanil	61599	2002	88671-89-0	F	Triazole	--	0.008	Quarterly
<b>1-Naphthol</b>	49295	2002	90-15-3	D	Carbamate, Chloroacetamide	Carbaryl, napropamide	0.088	Quarterly
1,4-Naphthoquinone	61611	2002	130-15-4	D	Carbamate, Chloroacetamide	Carbaryl, napropamide	0.044	Quarterly
Napropamide	82684	2001	15299-99-7	H	Chloroacetamide	--	0.007	Monthly
Neburon	49294	2060	555-37-3	H	Phenyl urea	--	0.012	Quarterly
Nicosulfuron	50364	2060	111991-09-4	H	Sulfonylurea	--	0.013, 0.040	Quarterly
Norflurazon	49293	2060	27314-13-2	H	Pyridazinone	--	0.016, 0.020	Quarterly
<b>OIET</b>	50355	2060	2163-68-0	D	Triazine	Atrazine	0.008, 0.032	Quarterly
Oryzalin	49292	2060	19044-88-3	H	Dinitroaniline	--	0.018, 0.012	Quarterly
Oxamyl	38866	2060	23135-22-0	I	Carbamate	--	0.012, 0.030	Quarterly
Oxyfluorfen	61600	2002	42874-03-3	H	Diphenyl ether	--	0.007	Quarterly
Paraoxon-ethyl	61663	2002	311-45-5	D	Organophosphate	Parathion	0.016	Quarterly
Paraoxon-methyl	61664	2002	950-35-6	D	Organophosphate	Methyl parathion	0.030	Quarterly
Parathion	39542	2001	56-38-2	I	Organophosphate	--	0.010	Monthly
Pebulate	82669	2001	1114-71-2	H	Thiocarbamate	--	0.004	Monthly
Pendimethalin	82683	2001	40487-42-1	H	Dinitroaniline	--	0.022	Monthly
<i>cis</i> -Permethrin	82687	2001	54774-45-7	I	Pyrethroid	--	0.006	Monthly
Phorate	82664	2001	298-02-2	I	Organophosphate	--	0.011	Monthly
Phorate oxon	61666	2002	2600-69-3	D	Organophosphate	Phorate	0.105	Quarterly
Phosmet	61601	2002	732-11-6	I	Organothiophosphate	--	0.008	Quarterly

Phosmet oxon	61668	2002	3735-33-9	D	Organothiophosphate	Phosmet	0.051	Quarterly
Picloram	49291	2060	1918-02-1	H	Pyridine	--	0.020, 0.032	Quarterly
Profenofos	61603	2002	41198-08-7	I	Organothiophosphate	--	0.006	Quarterly
<b>Prometon</b>	04037	2001	1610-18-0	H	Triazine	--	0.005, 0.010	Monthly
Prometryn	04036	2002	7287-19-6	H	Triazine	--	0.005	Quarterly
<b>Pronamide</b>	82676	2001	23950-58-5	H	Amide	--	0.004	Monthly
Propachlor	04024	2001	1918-16-7	H	Chloroacetamide	--	0.025	Monthly
Propanil	82679	2001	709-98-8	H	Chloroacetamide	--	0.011	Monthly
Propargite	82685	2001	2312-35-8	I	Miscellaneous	--	0.023	Monthly
Propetamphos	61604	2002	31218-83-4	I	Organothiophosphate	--	0.004	Quarterly
Propham	49236	2060	122-42-9	H	Carbamate	--	0.010, 0.030	Quarterly
<i>cis</i> -Propiconazole	79846	2002	60207-90-1	F	Triazole	--	0.008	Quarterly
Propiconazole	50471	2060	60207-90-1	F	Triazole	--	0.021, 0.010	Quarterly
<i>trans</i> -Propiconazole	79847	2002	60207-90-1	F	Triazole	--	0.013	Quarterly
Propoxur	38538	2060	114-26-1	I	Carbamate	--	0.008	Quarterly
Siduron	38548	2060	1982-49-6	H	Phthalimide	--	0.017, 0.020	Quarterly
<b>Simazine</b>	04035	2001	122-34-9	H	Triazine	--	0.005	Monthly
<b>Sulfometuron-methyl</b>	50337	2060	74222-97-2	H	Sulfonyleurea	--	0.009, 0.038	Quarterly
Sulfotepp	61605	2002	3689-24-5	I	Organothiophosphate	--	0.003	Quarterly
Sulprofos	38716	2002	35400-43-2	I	Organothiophosphate	--	0.016	Quarterly
Tebupirimphos	61602	2002	96182-53-5	I	Organothiophosphate	--	0.006	Quarterly
Tebupirimphos oxygen analogue	61669	2002	NA	D	Organothiophosphate	Tebupirimphos	0.006	Quarterly
Tebuthiuron	82670	2001	34014-18-1	H	Phenyl urea	--	0.016	Monthly
Tefluthrin	61606	2002	79538-32-2	I	Pyrethroid	--	0.008	Quarterly
Temephos	61607	2002	3383-96-8	I	Organothiophosphate	--	0.267	Quarterly
Terbacil	04032	2060	5902-51-2	H	Uracil	--	0.010, 0.016	Quarterly
Terbacil	82665	2001	5902-51-2	H	Uracil	--	0.034	Monthly
Terbufos	82675	2001	13071-79-9	I	Organophosphate	--	0.017	Monthly
Terbufos-O-analogue sulfone	61674	2002	56070-15-6	D	Organophosphate	Terbufos	0.068	Quarterly
Terbutylazine	04022	2002	5915-41-3	H	Triazine	--	0.010	Quarterly
Thiobencarb	82681	2001	28249-77-6	H	Thiocarbamate	--	0.010	Monthly
Triallate	82678	2001	2303-17-5	H	Thiocarbamate	--	0.002, 0.006	Monthly
Tribufos	61610	2002	78-48-8	Def	Organothiophosphate	--	0.004	Quarterly
<b>Triclopyr</b>	49235	2060	55335-06-3	H	Pyridyloxyacetic acid	--	0.022, 0.026	Quarterly
3-Trifluoromethylaniline	61630	2002	98-16-8	D	Phenyl urea	Fluometuron	0.011	Quarterly
<b>Trifluralin</b>	82661	2001	1582-09-8	H	Dinitroaniline	--	0.009	Monthly