

Table 5. Properties and chemicals analyzed in water or bed-sediment samples.

[CASRN, Chemical Abstracts Services Registry Number; $\mu\text{S}/\text{cm}$, microsiemens per centimeter at 25 degrees Celsius ($^{\circ}\text{C}$); mg/L , milligrams per liter; $\mu\text{g}/\text{L}$, micrograms per liter; nm , nanometers; ng/L , nanograms per liter; ng/g , nanograms per gram; g/kg , grams per kilogram; $>$, greater than; UV, ultraviolet; --, not applicable]

Property/chemical name	Laboratory reporting level	CASRN ¹
Basic water-quality properties measured in the field		
Air pressure (millimeters of mercury)	--	--
Air temperature ($^{\circ}\text{C}$)	--	--
Discharge/streamflow (cubic meters per second; cubic feet per second)	--	--
Dissolved oxygen (mg/L)	--	--
pH	--	--
Specific conductance ($\mu\text{S}/\text{cm}$)	--	--
Water temperature ($^{\circ}\text{C}$)	--	--
Turbidity (nephelometric turbidity units)	--	--
Major ions and nutrients analyzed in water at the USGS National Water Quality Laboratory and suspended sediment analyzed at the USGS Iowa Sediment Laboratory (mg/L)		
Filtered (dissolved) chloride	0.12	16887-00-6
Filtered (dissolved) sulfate	.18	14808-79-8
Filtered (dissolved) ammonia plus organic nitrogen as nitrogen	.1	17778-88-0
Unfiltered (total) ammonia plus organic nitrogen as nitrogen	.1	17778-88-0
Filtered (dissolved) ammonia as nitrogen	.02	7664-41-7
Filtered (dissolved) nitrate plus nitrite as nitrogen	.04	--
Filtered (dissolved) nitrite as nitrogen	.002	14797-65-0
Filtered (dissolved) orthophosphate as phosphorus	.008	14265-44-2
Filtered (dissolved) phosphorus	.006	7723-14-0
Unfiltered (total) phosphorus	.008	7723-14-0
Suspended sediment	--	--
Trace elements and major ions analyzed in water at the USGS National Research Program Laboratory ($\mu\text{g}/\text{L}$, unless noted)		
Aluminum	0.07	7429-90-5
Antimony	.004	7440-36-0
Arsenic	.02	7440-38-2
Boron	3.0	7440-42-8
Barium	.01	7440-39-3
Beryllium	.007	7440-41-7
Bismuth	.002	7440-69-9
Cadmium	.0007	7440-43-9
Calcium (mg/L)	.01	7440-70-2
Cerium	.0002	7440-45-1
Cesium	.002	7440-46-2
Chromium	.1	7440-47-3
Cobalt	.2	7440-48-4
Copper	.005	7440-50-8
Dysprosium	.0003	7429-91-6
Erbium	.0001	7440-52-0
Europium	.0001	7440-53-1

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Property/chemical name	Laboratory reporting level	CASRN ¹
Trace elements and major ions analyzed in water at the USGS National Research Program Laboratory ($\mu\text{g}/\text{L}$, unless noted)—Continued		
Gadolinium	0.0002	7440–54–2
Holmium	.0001	7440–60–0
Iron	1.3	7439–89–6
Lanthanum	.0001	7439–91–0
Lead	.001	7439–92–1
Lithium	.01	7439–93–2
Lutetium	.00007	7439–94–3
Magnesium (mg/L)	.01	7439–95–4
Manganese	.01	7439–96–5
Molybdenum	.03	7439–98–7
Neodymium	.0005	7440–00–8
Nickel	.4	7440–02–0
Phosphorus	12	7723–14–0
Potassium (mg/L)	.009	7440–09–7
Praseodymium	.0001	7440–10–0
Rhenium	.0001	7440–15–5
Rubidium	.002	7440–17–7
Samarium	.0006	7440–19–9
Selenium	.3	7782–49–2
Silica (mg/L)	.007	60676–86–0
Sodium (mg/L)	.1	7440–23–5
Strontium	.04	7440–24–6
Sulfur (mg/L)	.04	7704–34–9
Tellurium	.005	13494–80–9
Terbium	.00006	7440–27–9
Thallium	.007	7440–28–0
Thorium	.0005	--
Thulium	.00004	7440–30–4
Tin	.005	7440–31–5
Titanium	.2	7440–32–6
Tungsten	.003	7440–33–7
Uranium	.002	--
Vanadium	.1	7440–62–2
Ytterbium	.0002	7440–64–4
Yttrium	.0001	7440–65–5
Zinc	.4	7440–66–6
Zirconium	.003	7440–67–7

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Property/chemical name	Laboratory reporting level	CASRN ¹
Pharmaceuticals analyzed in water at the USGS National Water Quality Laboratory ($\mu\text{g}/\text{L}$)		
Acetaminophen	0.08	103–90–2
Albuterol	.06	18559–94–9
Caffeine	.2	58–08–2
Carbamazepine	.04	298–46–4
Codeine	.04	76–57–3
Cotinine	.026	486–56–6
Dehydronifedipine	.08	67035–22–7
Diltiazem	.08	42399–41–7
1,7-Dimethylxanthine	.12	611–59–6
Diphenhydramine	.04	58–73–1
Fluoxetine	.016	54910–89–3
Sulfamethoxazole	.16	723–46–6
Thiabendazole	.06	148–79–8
Trimethoprim	.02	738–70–5
Warfarin	.1	81–81–2
Carbamazepine- d_{10} surrogate standard (percent)	--	--
Ethyl nicotinate- d_4 surrogate standard (percent)	--	--
Phytoestrogens, pharmaceuticals, and an antimicrobial analyzed at the University of Colorado Center for Environmental Mass Spectrometry (ng/L)		
Biochanin A	5	491–80–5
Bupropion	10	34911–55–2
Carbamazepine	5	298–46–4
Coumestrol	1	479–13–0
Daidzein	1	486–66–8
Daidzin (sugar)	1	552–66–9
Equol	20	531–95–3
Fluoxetine	10	54910–89–3
Fluvoxamine	10	61718–82–9
Formononetin	1	485–72–3
Genistein	10	446–72–0
Genistin (sugar)	5	529–59–9
Glycitein	1	40957–83–3
Hydroxy-bupropion	1	--
Prunetin	5	552–59–0
Sulfamethoxazole	5	723–46–6
Triclocarban	20	101–20–2
Trimethoprim	5	738–70–5
Venlafaxine	5	93413–69–5

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Property/chemical name	Laboratory reporting level	CASRN ¹
Alkylphenols and other neutral organic chemicals analyzed in water at the USGS National Research Program Laboratory (ng/L)		
Acetyl hexamethyl tetrahydronaphthalene (AHTN)	5	21145-77-7
Bisphenol A	20	80-05-7
4- <i>tert</i> -Butylphenol	5	98-54-4
Caffeine	20	58-08-2
2,6-Di- <i>tert</i> -butyl-1,4-benzoquinone	300	719-22-2
1,3-Dichlorobenzene	5	541-73-1
1,4-Dichlorobenzene	5	106-46-7
N,N-diethyl- <i>meta</i> -toluamide (DEET)	10	134-62-3
Hexahydrohexamethylcyclopentabenzopyran (HHCB)	5	1222-05-5
5-Methyl-1H-benzotriazole	20	136-85-6
4-Nonylphenol (NP)	50	25154-52-3
4-Nonylphenolmonoethoxylate (NP1EO)	50	27986-36-3
4-Nonylphenoldiethoxylate (NP2EO)	50	9016-45-9
4-Nonylphenoltriethoxylate (NP3EO)	50	--
4-Nonylphenoltetraethoxylate (NP4EO)	50	--
4- <i>tert</i> -Octylphenol	5	140-66-9
4- <i>tert</i> -Octylphenolmonoethoxylate (OP1EO)	5	9036-19-5
4- <i>tert</i> -Octylphenoldiethoxylate (OP2EO)	5	--
4- <i>tert</i> -Octylphenoltriethoxylate (OP3EO)	5	--
4- <i>tert</i> -Octylphenoltetraethoxylate (OP4EO)	5	--
4- <i>tert</i> -Octylphenolpentaethoxylate (OP5EO)	5	--
4- <i>tert</i> -Pentylphenol	5	--
Triclosan	5	3380-34-5
4- <i>n</i> -Nonylphenol surrogate standard (percent)	--	104-40-5
4- <i>n</i> -Nonylphenolmonoethoxylate surrogate standard (percent)	--	--
4- <i>n</i> -Nonylphenoldiethoxylate surrogate standard (percent)	--	--
Bisphenol A- <i>d</i> ₆ surrogate standard (percent)	--	--
Cholesterol- <i>d</i> ₇ surrogate standard (percent)	--	--
Carboxylic acids analyzed in water at the USGS National Research Program Laboratory ($\mu\text{g}/\text{L}$)		
Ethylenediaminetetraacetic acid (EDTA)	1	60-00-4
Nitrilotriacetic acid (NTA)	1	139-13-9
4-Nonylphenolmonoethoxycarboxylate (NP1EC)	1	3115-49-9
4-Nonylphenoldiethoxycarboxylate (NP2EC)	1	106807-78-7
4-Nonylphenoltriethoxycarboxylate (NP3EC)	1	108149-59-3
4-Nonylphenoltetraethoxycarboxylate (NP4EC)	1	--
4- <i>n</i> -Nonylphenolmonoethoxycarboxylate surrogate standard (percent)	--	--
Steroidal hormones and other chemicals analyzed in water at the USGS National Research Program Laboratory (ng/L)		
4-Androstene-3,17-dione ²	0.8	63-05-8
<i>cis</i> -Androsterone ²	.8	53-41-8

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Property/chemical name	Laboratory reporting level	CASRN ¹
Steroidal hormones and other chemicals analyzed in water at the USGS National Research Program Laboratory (ng/L)—Continued		
Bisphenol A	20	80–05–7
Cholesterol	800	57–88–5
3- <i>beta</i> -Coprostanol	50	360–68–9
Diethylstilbestrol	.1	56–53–1
Equilenin	.1	517–09–9
Equilin ²	2	474–86–2
17- <i>alpha</i> -Estradiol	.1	57–91–0
17- <i>beta</i> -Estradiol (E2)	.2	50–28–2
Estriol	0.1	50–27–1
Estrone ²	2	53–16–7
17- <i>alpha</i> -Ethinylestradiol (EE2)	.1	57–63–6
Mestranol	.1	72–33–3
Norethindrone ²	2	68–22–4
Progesterone ²	2	57–83–0
Testosterone ²	2	58–22–0
dihydro-Testosterone ²	2	521–18–6
epi-Testosterone ²	2	481–30–1
11- <i>keto</i> -Testosterone ²	2	564–35–2
4-Androstene-3-17-dione- <i>d</i> ₇ isotope dilution standard (percent)	--	--
Bisphenol A- <i>d</i> ₁₆ isotope dilution standard (percent)	--	96210–87–6
Cholesterol- <i>d</i> ₇ isotope dilution standard (percent)	--	83199–47–7
<i>trans</i> -Diethylstilbestrol- <i>d</i> ₈ isotope dilution standard (percent)	--	91318–10–4
17- <i>beta</i> -Estradiol- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Estriol- <i>d</i> ₃ isotope dilution standard (percent)	--	--
Estrone- <i>d</i> ₄ isotope dilution standard (percent)	--	--
17- <i>alpha</i> -Ethinylestradiol-2,4,16,16- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Mestranol-2,4,16,16- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Norethindrone- <i>d</i> ₆ isotope dilution standard (percent)	--	--
Progesterone- <i>d</i> ₉ isotope dilution standard (percent)	--	--
Testosterone- <i>d</i> ₅ isotope dilution standard (percent)	--	--
Dihydrotestosterone- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Carbon and wastewater-indicator chemicals analyzed in bed-sediment samples at the USGS National Water Quality Laboratory (ng/g)		
Total carbon (g/kg)	--	--
Inorganic carbon (g/kg)	--	--
Organic carbon (g/kg)	--	--
Acetophenone ³	150	98–86–2
Acetyl hexamethyl tetrahydronaphthalene (AHTN)	50	21145–77–7
Anthracene	50	120–12–7

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Property/chemical name	Laboratory reporting level	CASRN ¹
Carbon and wastewater-indicator chemicals analyzed in bed-sediment samples at the USGS National Water Quality Laboratory (ng/g)—Continued		
9,10-Anthraquinone	50	84–65–1
Atrazine	100	1912–24–9
Benzo[a]pyrene	50	50–32–8
Benzophenone	50	119–61–9
Bisphenol A ³	50	80–05–7
Bromacil	500	314–40–9
3- <i>tert</i> -Butyl-4-hydroxyanisole (BHA)	150	25013–16–5
Camphor	50	76–22–2
Carbazole	50	86–74–8
Chlorpyrifos	50	2921–88–2
Cholesterol	250	57–88–5
3- <i>beta</i> -Coprostanol	500	360–68–9
p-Cresol (4-Methylphenol) ³	250	106–44–5
4-Cumylphenol	50	599–64–4
Diazinon	50	333–41–5
1,4-Dichlorobenzene	50	106–46–7
Diethylhexyl phthalate ⁵	250	117–81–7
Diethylphthalate ⁵	100	84–66–2
2,6-Dimethylnaphthalene	50	581–42–0
Fluoranthene ³	50	206–44–0
Hexahydrohexamethylcyclopentabenzopyran (HHCB) (galaxolide) ³	50	1222–05–5
Indole ³	100	120–72–9
Isoborneol	50	124–76–5
Isophorone ³	50	78–59–1
Isopropylbenzene (cumene) ³	100	98–82–8
Isoquinoline ³	100	119–65–3
<i>d</i> -Limonene ³	50	5989–27–5
Menthol	50	89–78–1
3-Methyl-1H-indole (skatol)	50	83–34–1
1-Methylnaphthalene	50	90–12–0
2-Methylnaphthalene	50	91–57–6
Metolachlor ³	50	51218–45–2
Naphthalene	50	91–20–3
N,N-diethyl- <i>meta</i> -toluamide (DEET) ³	100	134–62–3
4-Nonylphenol (NP) (all isomers) ⁴	750	84852–15–3
4-Nonylphenoldiethoxylate (NP2EO) ⁴	1000	--
4-Nonylphenolmonoethoxylate (NP1EO) ⁴	500	--

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Carbon and wastewater-indicator chemicals analyzed in bed-sediment samples at the USGS National Water Quality Laboratory (ng/g)—Continued		
4- <i>n</i> -Octylphenol	50	1806–26–4
4- <i>tert</i> -Octylphenol (TOP)	50	140–66–9
4- <i>tert</i> -Octylphenoldiethoxylate (OP1EO) ⁴	50	--
4- <i>tert</i> -Octylphenolmonoethoxylate (OP2EO) ⁴	250	--
Phenanthrene	50	85–01–8
Phenol ³	50	108–95–2
Prometon	50	1610–18–0
Pyrene	50	129–00–0
<i>beta</i> -Sitosterol	500	83–46–5
<i>beta</i> -Stigmastanol	500	19466–47–8
2,2',4,4'-Tetrabromodiphenylether (PBDE 47)	50	5436–43–1
Tributyl phosphate	50	126–73–8
Triclosan	50	3380–34–5
Triphenyl phosphate ³	50	115–86–6
Tris(2-butoxyethyl) phosphate	150	78–51–3
Tris(2-chloroethyl) phosphate ³	100	115–96–8
Tris(dichloroisopropyl) phosphate ³	100	13674–87–8
Bisphenol A- <i>d</i> ₃ surrogate standard (percent)	--	--
Decafluorobiphenyl surrogate standard (percent)	--	--
Fluoranthene- <i>d</i> ₁₀ surrogate standard (percent)	--	--
Steroidal hormones and other chemicals analyzed in bed sediment at the USGS National Water Quality Laboratory (ng/g)		
4-Androstene-3,17-dione ²	0.1	63–05–8
<i>cis</i> -Androsterone ²	.1	53–41–8
Bisphenol A	12	80–05–7
Cholesterol	250	57–88–5
3- <i>beta</i> -Coprostanol	250	360–68–9
trans-Diethylstilbestrol	.1	56–53–1
Dihydrotestosterone ²	.1	521–18–6
Equilenin	.26	517–09–9
Equilin ²	.5	474–86–2
17- <i>alpha</i> -Estradiol	.1	57–91–0
17- <i>beta</i> -Estradiol (E2)	.1	50–28–2
Estriol	.26	50–27–1
Estrone ²	.1	53–16–7
17- <i>alpha</i> -Ethinylestradiol (EE2)	.1	57–63–6
Mestranol	.1	72–33–3
Norethindrone ²	.1	68–22–4

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Property/chemical name	Laboratory reporting level	CASRN ¹
Steroidal hormones and other chemicals analyzed in bed sediment at the USGS National Water Quality Laboratory (ng/g)—Continued		
Progesterone ²	0.5	57–83–0
Testosterone ²	.1	58–22–0
epi-Testosterone ²	.5	366495–94–5
11- <i>keto</i> -Testosterone ²	.26	564–35–2
4-Androstene-3,17-dione-2,2,4,6,6,16,16- <i>d</i> ₇ isotope dilution standard (percent)	--	--
Bisphenol-A- <i>d</i> ₁₆ isotope dilution standard (percent)	--	96210–87–6
Cholesterol- <i>d</i> ₇ isotope dilution standard (percent)	--	83199–47–7
<i>trans</i> -Diethyl-1,1,1',1'- <i>d</i> ₄ -stilbesterol-3,3',5,5'- <i>d</i> ₄ isotope dilution standard (percent)	--	91318–10–4
16-Epiestriol-2,4- <i>d</i> ₂ (percent)	--	--
Dihydrotestosterone-1,2,4,5a- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Estriol-2,4,17- <i>d</i> ₃ isotope dilution standard (percent)	--	--
Estrone-2,4,16,16- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Estrone-13,14,15,16,17,18- ¹³ C ₆ isotope dilution standard (percent)	--	--
17- <i>beta</i> -Estradiol- <i>d</i> ₄ isotope dilution standard (percent)	--	--
17- <i>beta</i> -Estradiol-13,14,15,16,17,18- ¹³ C ₆ isotope dilution standard (percent)	--	--
17- <i>alpha</i> -Ethinylestradiol-2,4,16,16- <i>d</i> ₄ isotope dilution standard (percent)	--	350820–06–3
Medroxy-progesterone- <i>d</i> ₃ isotope dilution standard (percent)	--	--
Mestranol-2,4,16,16- <i>d</i> ₄ isotope dilution standard (percent)	--	--
Nandrolone-16,16,17- <i>d</i> ₃ surrogate (percent)	--	--
Norethindrone-2,2,4,6,6,10- <i>d</i> ₆ isotope dilution standard (percent)	--	--
Progesterone-2,2,4,6,6,17a,21,21,21- <i>d</i> ₉ isotope dilution standard (percent)	--	--
Testosterone-2,2,4,6,6- <i>d</i> ₅ isotope dilution standard (percent)	--	--

¹This report contains Chemical Abstract Service (CAS) Registry Numbers® (CASRNs), which is a Registered Trademark of the American Chemical Society. CAS recommends the verification of the CASRNs through CAS Client ServicesSM.

²Chemical that may have been affected by isotope dilution standard deuterium loss.

³Concentration is estimated because recovery is less than 60 percent or precision is greater than 25 percent relative standard deviation. This can be caused by instrumental or extraction difficulties.

⁴Concentration is estimated because the reference standard is from a technical mixture.

⁵Concentration is estimated because of potential blank contamination unless concentration is greater than 10 times the 95th percentile of all blank concentrations.