

# PFOS/PFOA Sampling Results

## Long Term Trend Sites: Wisconsin - 2020



### Sample Data

**PFOS | PFOA**

Sampled Concentrations - ng/L (ppt)  
Low (Green) to High (Red)

Sampled Lakes & Rivers

Sample Locations

ND = Non Detect

N/A = Data not received from lab

Last updated February 14, 2024

0 15 30 60 Miles

N



## PFOS/PFOA Sample Results - Long Term Trend Sites Wisconsin, 2020

SWIMS Station	Waterbody	Latitude	Longitude	WBIC	PFOS	PFOA
23001	Bad R. at Odanah	46.610361	-90.68675	2891900	ND	0.66
573051	Baraboo R. at Rowley Creek Brdg.	43.477222	-89.63361	1271100	ND	ND
623001	Black R. at Galesville (Hwy 53)	44.0625	-91.291444	1676700	0.388	0.422
163002	Bois Brule R. at Brule	46.680028	-91.594889	2861800	ND	0.432
553003	Chippewa R. at Bruce	45.45361	-91.259722	2050000	0.429	1.07
93001	Chippewa R. at Chippewa Falls	44.925943	-91.393333	2050000	0.535	0.888
473008	Chippewa R. at Durand	44.628389	-91.968083	2050000	0.699	1.39
553149	Flambeau R. at Bruce	45.371667	-91.20861	2225000	0.543	0.712
683096	Fox (IL) R. below Waukesha	42.933889	-88.2925	742500	2.85	2.54
303066	Fox (IL) R. near New Munster	42.610833	-88.225833	742500	1.56	2.12
243020	Fox R. at Berlin	43.966667	-88.95	117900	ND	ND
53210	Fox R. at DePere	44.460833	-88.058333	117900	0.897	1.71
713002	Fox R. at Neenah and Menasha	44.186194	-88.454639	130600	2.17	1.17
713056	Fox R. at Oshkosh	44.013639	-88.537472	117900	0.856	0.831
223336	Grant R. at Burton	42.720367	-90.81933	956000	ND	ND
	Kewaunee R. at Kewaunee	44.45	-87.572222	90700	ND	ND
123017	Kickapoo R. at Stueben	43.183333	-90.85	1182400	ND	ND
323017	La Crosse R. near Mouth	43.818222	-91.2565	1650200	#N/A	#N/A
363069	Manitowoc R. at Manitowoc	44.106056	-87.716028	71000	ND	0.606
383088	Menominee R. at McAllister	45.322222	-87.661111	609000	ND	0.564
413640	Milwaukee R. at Estabrook Park	43.1	-87.908889	15000	1.52	3.01
483027	Mississippi R. at Above LD 3	44.611	-92.608	721000	2.47	5.07
63029	Mississippi R. at Above LD 4	44.325	-91.919443	721000	1.17	2.1
123016	Mississippi R. at LD 9	43.211389	-91.1	721000	1.1	1.93
433002	Oconto R. at Oconto	44.883361	-87.884333	440200	ND	0.78
233002	Pecatonica R. at Martintown	42.510556	-89.800667	889100	ND	ND
383001	Peshtigo R. at Peshtigo	45.054333	-87.747083	515500	ND	0.832
193003	Popple R. at Fence	45.763611	-88.463056	652900	0.483	1.69
173208	Red Cedar R. at Menomonie	44.884528	-91.93183333	2063500	0.463	0.523
543001	Rock R. at Afton	42.613861	-89.070583	7888000	1.45	1.81
285004	Rock R. at Watertown	43.186667	-88.726388		0.551	1.61
523061	Root R. at Johnson Park	42.787778	-87.828611	2900	1.66	6.07
603095	Sheboygan R. at Esslingen Park	43.7406102	-87.7510047	50700	0.682	0.962
73132	St. Croix R. at Danbury	46.07444444	-92.24722222	2601400	ND	0.441
493210	St. Croix R. at St. Croix Falls	45.40694444	-92.64694444	2601400	ND	0.597
233001	Sugar R. at Broadhead	42.550306	-89.366083	875300	ND	ND
623039	Trempealeau R. at Dodge	44.131389	-91.554167	1769900	ND	ND
723002	Wisconsin R. at Biron	44.434083	-89.776278	1179900	4.33	9.76
353068	Wisconsin R. at Merrill	45.178333	-89.686111	1179900	3.61	12.7
223282	Wisconsin R. at Muscoda	43.196943	-90.442222	1179900	3.19	4.04
573052	Wisconsin R. at Wisconsin Dells	43.6275	-89.780833	1179900	1.97	5.18
343033	Wolf R. at Langlade	45.19	-88.733611	241300	0.474	1.51
693035	Wolf R. at New London	44.383333	-88.75	241300	0.492	0.469

Table 1. Long Term Trends (LTT) Rivers PFAS Surface Water Results 2020. Current WI PFAS surface water standards are PFOS = 8.0 ng/L (ppt) and PFOA = 95 ng/L (ppt). All PFAS compounds analyzed by the WI State Lab of Hygiene.

		7/14/20	7/14/20	7/14/20	7/14/20	7/14/20	7/15/20	7/15/20	7/15/20	7/15/20	7/15/20	7/15/20	7/15/20
Description	Acronym	Chippewa River at Hwy 8, Bruce	Black River DS of Hwy 53 Bridge, Galesville	Trempealeau River at Hwy P, Dodge	Flambeau River at Hwy E	St Croix River at Interstate Park	Wisconsin River below Biron Dam	Chippewa River at Hwy 10, Durand	St. Croix River at Danbury, DS of Hwy 35	Red Cedar River at Menomonee Hydro	Bad River at Hwy 2	Chippewa River at Chippewa Falls Dam	Bois Brule River at Hwy 13
Perfluoro-n-butanoic acid	PFBA	79.4	134	52.6	133	25.4	<2.56	105	17.7	69.4	70.3	141	18.6
Perfluoro-n-pentanoic acid	PFPeA	0.375	<0.315	<0.315	<0.315	1.21	5.40*	<0.315	0.343*	1.06	<0.316	<0.315	0.399
Perfluoro-n-hexanoic acid	PFHxA	0.670*	0.545*	<0.373	0.649*	0.616*	5.15	0.831*	<0.374	0.455*	0.505*	0.567*	<0.378
Perfluoro-n-heptanoic acid	PFHpA	0.851*	<0.418	<0.419	0.750*	<0.418	3.74	0.670*	<0.421	<0.419	0.668*	0.615*	<0.426
<b>Perfluoro-n-octanoic acid</b>	<b>PFOA</b>	<b>1.07</b>	<b>0.422*</b>	<b>&lt;0.409</b>	<b>0.712*</b>	<b>0.597*</b>	<b>9.76</b>	<b>1.39</b>	<b>0.441</b>	<b>0.523*</b>	<b>0.660*</b>	<b>0.888</b>	<b>0.432*</b>
Perfluoro-n-nonanoic acid	PFNA	0.491	<0.383	<0.384	0.512*	<0.383	0.764	0.436*	<0.386	<0.384	0.398*	0.531*	<0.390
Perfluoro-n-decanoic acid	PFDA	<0.349	<0.349	<0.350	<0.349	<0.349	<0.362	<0.350	<0.351	<0.350	<0.351	<0.349	<0.355
Perfluoro-n-undecanoic acid	PFUnA	<0.361	<0.361	<0.362	<0.361	<0.361	<0.375	<0.362	<0.364	<0.362	<0.363	<0.362	<0.367
Perfluoro-n-dodecanoic acid	PFDoA	<0.341	<0.341	<0.342	<0.341	<0.341	<0.354	<0.342	<0.343	<0.342	<0.343	<0.341	<0.347
Perfluoro-n-tridecanoic acid	PFTriDA	<0.356	<0.356	<0.357	<0.356	<0.356	<0.370	<0.357	<0.358	<0.357	<0.358	<0.356	<0.362
Perfluoro-n-tetradecanoic acid	PFTeDA	<0.315	<0.315	<0.315	<0.315	<0.315	<0.327	<0.315	<0.317	<0.315	<0.316	<0.315	<0.320
Perfluoro-n-butananesulfonic acid	PFBS	<0.389	<0.389	<0.390	<0.389	<0.389	0.686*	0.535*	<0.392	0.508*	<0.391	<0.390	<0.396
Perfluoro-n-pentanesulfonic acid	PFPeS	<0.241	<0.241	<0.241	<0.241	<0.241	<0.250	<0.241	<0.242	<0.241	<0.242	<0.241	<0.245
Perfluoro-n-hexanesulfonic acid	PFHxS	<0.364	<0.364	<0.365	<0.364	<0.364	0.483*	<0.365	<0.366	<0.365	<0.366	<0.364	<0.370
Perfluoro-n-heptanesulfonic acid	PFHpS	<0.355	<0.355	<0.356	<0.355	<0.355	<0.369	<0.356	<0.357	<0.356	<0.357	<0.355	<0.361
<b>Perfluoro-n-octanesulfonic acid</b>	<b>PFOS</b>	<b>0.429</b>	<b>0.388</b>	<b>&lt;0.302</b>	<b>0.543</b>	<b>&lt;0.301</b>	<b>4.33</b>	<b>0.699</b>	<b>&lt;0.303</b>	<b>0.463</b>	<b>&lt;0.303</b>	<b>0.535</b>	<b>&lt;0.307</b>
Perfluoro-n-nonanesulfonic acid	PFNS	<0.444	<0.444	<0.445	<0.444	<0.444	<0.461	<0.445	<0.447	<0.445	<0.446	<0.444	<0.451
Perfluoro-n-decanesulfonic acid	PFDS	<0.404	<0.404	<0.405	<0.404	<0.404	<0.420	<0.405	<0.407	<0.405	<0.406	<0.405	<0.411
Perfluoro-n-dodecanesulfonic acid	PFDoS	<0.460	<0.460	<0.461	<0.460	<0.460	<0.477	<0.461	<0.463	<0.461	<0.462	<0.460	<0.468
4:2 Fluorotelomer sulfonic acid	4:2 FTS	<0.401	<0.401	<0.402	<0.401	<0.401	<0.416	<0.402	<0.403	<0.402	<0.403	<0.401	<0.408
6:2 Fluorotelomer sulfonic acid	6:2 FTS	<0.454	<0.454	<0.455	<0.454	<0.454	<0.472	<0.456	<0.457	<0.456	<0.457	<0.455	<0.462
8:2 Fluorotelomer sulfonic acid	8:2 FTS	<0.396	<0.396	<0.397	<0.396	<0.396	<0.412	<0.397	<0.399	<0.397	<0.398	<0.397	<0.403
10:2 Fluorotelomer sulfonic acid	10:2 FTS	<0.385	<0.385	<0.386	<0.385	<0.385	<0.400	<0.386	<0.388	NA	<0.387	NA	<0.392
Perfluorooctanesulfonamide	PFOSA	<3.61	<3.61	<3.62	<3.61	<3.61	<3.75	<3.62	<3.64	<3.62	<3.63	<3.62	<3.67

N-Ethyl perfluorooctanesulfonamidoethanol	NEtFOSE	<0.366	<0.366	<0.367	<0.366	<0.367	<0.381	<0.367	<0.369	<0.367	<0.368	<0.367	<0.373
N-Methyl perfluorooctanesulfonamidoethanol	NMeFOSE	<0.359	<0.359	<0.360	<0.359	<0.359	<0.373	<0.360	<0.362	<0.360	<0.361	<0.360	<0.366
N-ethyl perfluorooctanesulfonamide	NEtFOSA	<0.584	<0.584	<0.586	<0.584	<0.584	<0.607	<0.586	<0.588	<0.586	<0.587	NA	<0.595
N-methyl perfluorooctanesulfonamide	NMeFOSA	<0.713	<0.714	<0.715	<0.714	<0.714	<0.741	<0.716	<0.718	<0.715	<0.717	<0.714	<0.726
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	<0.380	<0.381	<0.381	<0.381	<0.381	4.04	<0.382	<0.383	<0.382	<0.383	<0.381	<0.387
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSA A	<0.476	<0.476	<0.477	<0.476	<0.476	<0.495	<0.478	<0.480	<0.478	<0.479	<0.477	<0.485
4,8-Dioxa-3H-perfluorononanoic acid	HFPO-DA	<0.373	<0.374	<0.374	<0.373	<0.374	<0.388	<0.375	<0.376	<0.374	<0.375	<0.374	<0.380
Hexafluoropropylene oxide dimer acid	DONA	<0.468	<0.468	<0.469	<0.468	<0.468	<0.486	<0.470	<0.472	<0.470	<0.471	<0.469	<0.477
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS	<0.373	<0.373	<0.373	<0.373	<0.373	<0.387	<0.374	<0.375	<0.374	<0.375	<0.373	<0.379
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	<0.350	<0.350	<0.351	<0.350	<0.350	<0.363	<0.351	<0.352	<0.351	<0.352	<0.350	<0.356

All concentrations in ng/L (ppt).

\*Value between Limit of Detection (LOD) and Limit of Quantitation (LOQ)

Values with (<) are below the LOD. NA = Not Analyzed or Reported.

Table 2. Long Term Trends (LTT) Rivers PFAS Surface Water Results 2020. Current WI PFAS surface water standards are PFOS = 8.0 ng/L (ppt) and PFOA = 95 ng/L (ppt). All PFAS compounds analyzed by the WI State Lab of Hygiene.

		7/21/20	7/21/20	7/21/20	7/23/20	7/23/20	7/23/20	10/13/20	10/13/20	10/15/20	10/15/20	10/15/20	10/15/20
Description	Acronym	Wisconsin River below Merrill Dam	Wolf River DS of Hwy 64, Langlade	Popple River near Morgan Lake Rd & NF Rd 2159	Mississippi River at Lock & Dam 9, Lynxville	Mississippi River, Pool 3 at Lock & Dam 3	Mississippi River, Pool 4 at Lock & Dam 4, Alma	Fox River (IL) at CTH I Bridge below Waukesha	Fox River (IL) - CTH JB, Near New Munster	Baraboo River, Rowley Creek Bridge at CTH X	Kewaunee River at Hwy F, Bruemmer Park	Wisconsin River at Wisconsin Dells	Manitowoc River at Hwy JJ (Michigan Ave)
Perfluoro-n-butanoic acid	PFBA	5.70*	65.7	143	11.8	34.1	13.3	4.55*	3.45	<2.48	<2.59	3.58*	<2.61
Perfluoro-n-pentanoic acid	PFPeA	4.88	1.31	1.38	1.26	2.79	<0.315	8.19	9.89	<0.317	<0.331	<0.316	<0.333
Perfluoro-n-hexanoic acid	PFHxA	5.46	1.19	1.23	1.03	2.28	1.13	4.15	7.5	<0.374	<0.392	2.52	<0.394
Perfluoro-n-heptanoic acid	PFHpA	4.17	1.26	1.83	0.538*	0.628*	0.574*	1.87	2.29	<0.421	<0.441	2.45	<0.443
<b>Perfluoro-n-octanoic acid</b>	<b>PFOA</b>	<b>12.7</b>	<b>1.51</b>	<b>1.69</b>	<b>1.93</b>	<b>5.07</b>	<b>2.1</b>	<b>2.54</b>	<b>2.12</b>	<b>&lt;0.411</b>	<b>&lt;0.430</b>	<b>5.18</b>	<b>0.606*</b>
Perfluoro-n-nonanoic acid	PFNA	0.887*	0.663*	0.959	<0.386	<0.389	<0.383	0.411*	<0.385	<0.386	<0.404	0.527*	<0.406
Perfluoro-n-decanoic acid	PFDA	<0.353	<0.355	<0.353	<0.351	<0.354	<0.349	<0.349	<0.351	<0.351	<0.367	<0.350	<0.370
Perfluoro-n-undecanoic acid	PFUnA	<0.365	<0.368	<0.365	<0.363	<0.366	<0.361	<0.361	<0.363	<0.364	<0.380	<0.362	<0.383
Perfluoro-n-dodecanoic acid	PFDoA	<0.345	<0.347	<0.345	<0.343	<0.346	<0.341	<0.341	<0.343	<0.343	<0.359	<0.342	<0.361
Perfluoro-n-tridecanoic acid	PFTrDA	<0.360	<0.362	<0.360	<0.358	<0.361	<0.356	<0.356	<0.358	<0.358	<0.375	<0.357	<0.377
Perfluoro-n-tetradecanoic acid	PFTeDA	NA	<0.320	<0.318	<0.317	<0.319	<0.315	<0.315	<0.316	<0.317	<0.331	<0.316	<0.333
Perfluoro-n-butananesulfonic acid	PFBS	<0.393	<0.396	0.411*	0.676*	3.26	0.793*	2.53	3.04	<0.392	<0.410	0.556*	<0.412
Perfluoro-n-pentanesulfonic acid	PFPeS	<0.243	<0.245	<0.243	<0.242	<0.244	<0.241	<0.241	<0.242	<0.242	<0.254	0.667	<0.255
Perfluoro-n-hexanesulfonic acid	PFHxS	<0.368	<0.370	<0.368	<0.366	1.11	<0.364	1.67	1.7	<0.366	<0.383	<0.365	<0.385
Perfluoro-n-heptanesulfonic acid	PFHpS	<0.359	<0.361	<0.359	<0.357	<0.360	<0.355	<0.355	<0.357	<0.358	<0.374	<0.356	<0.376
<b>Perfluoro-n-octanesulfonic acid</b>	<b>PFOS</b>	<b>3.61</b>	<b>0.474</b>	<b>0.483</b>	<b>1.1</b>	<b>2.47</b>	<b>1.17</b>	<b>2.85</b>	<b>1.56</b>	<b>&lt;0.304</b>	<b>&lt;0.317</b>	<b>1.97</b>	<b>&lt;0.319</b>
Perfluoro-n-nonanesulfonic acid	PFNS	<0.449	<0.452	<0.449	<0.447	<0.450	<0.444	<0.444	<0.446	<0.447	<0.467	<0.445	<0.470
Perfluoro-n-decanesulfonic acid	PFDS	<0.409	<0.411	<0.409	<0.407	<0.410	<0.404	<0.404	<0.406	<0.407	<0.426	<0.406	<0.428
Perfluoro-n-dodecanesulfonic acid	PFDoS	<0.464	<0.468	<0.465	<0.462	<0.466	<0.459	<0.460	<0.462	<0.463	<0.484	<0.461	<0.487
4:2 Fluorotelomer sulfonic acid	4:2 FTS	<0.405	<0.408	<0.405	<0.403	<0.407	<0.401	<0.401	<0.403	<0.404	<0.422	<0.402	<0.425
6:2 Fluorotelomer sulfonic acid	6:2 FTS	<0.459	<0.462	<0.459	<0.457	<0.461	<0.454	<0.455	<0.457	0.492*	<0.479	<0.456	<0.481
8:2 Fluorotelomer sulfonic acid	8:2 FTS	<0.401	<0.403	<0.401	<0.399	<0.402	<0.396	<0.396	<0.398	<0.399	<0.417	<0.398	<0.420
10:2 Fluorotelomer sulfonic acid	10:2 FTS	<0.389	<0.392	<0.389	<0.387	<0.391	<0.385	<0.385	<0.387	<0.388	<0.405	<0.386	<0.408
Perfluorooctanesulfonamide	PFOSA	<3.65	<3.68	<3.65	<3.63	<3.66	<3.61	<3.61	<3.63	<3.64	<3.80	<3.62	<3.83
N-Ethyl perfluorooctanesulfonamidoethanol	NETFOSE	<0.363	<0.373	<0.370	<0.369	<0.372	<0.366	<0.367	<0.368	<0.369	<0.386	<0.368	<0.388

N-Methyl perfluorooctanesulfonamidoethanol	NMeFOSE	NA	<0.366	<0.363	<0.362	<0.365	<0.359	<0.360	<0.361	<0.362	<0.379	<0.361	<0.381
N-ethyl perfluorooctanesulfonamide	NEtFOSA	NA	NA	<0.591	<0.588	<0.593	<0.584	<0.585	<0.587	<0.588	<0.616	<0.586	<0.619
N-methyl perfluorooctanesulfonamide	NMeFOSA	NA	<0.726	<0.721	<0.718	<0.724	<0.713	<0.714	<0.717	<0.719	<0.752	<0.716	<0.756
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	10.1	<0.387	<0.385	<0.383	<0.386	<0.380	<0.381	<0.383	<0.383	<0.401	4.1	<0.403
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	<0.481	<0.485	<0.481	<0.479	<0.483	<0.476	<0.476	<0.479	<0.480	<0.502	<0.478	<0.505
4,8-Dioxa-3H-perfluorononanoic acid	HFPO-DA	<0.377	<0.380	<0.378	<0.376	<0.379	<0.373	<0.374	<0.375	<0.376	<0.393	<0.375	<0.396
Hexafluoropropylene oxide dimer acid	DONA	<0.473	<0.477	<0.473	<0.471	<0.475	<0.468	<0.469	<0.471	<0.472	<0.493	<0.470	<0.496
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS	<0.377	<0.379	<0.377	<0.375	<0.378	<0.372	<0.373	<0.375	<0.375	<0.392	<0.374	<0.395
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	<0.353	<0.356	<0.354	<0.352	<0.355	<0.350	<0.350	<0.352	<0.352	<0.368	<0.351	<0.371

All concentrations in ng/L (ppt).

\*Value between Limit of Detection (LOD) and Limit of Quantitation (LOQ)

Values with (<) are below the LOD. NA = Not Analyzed or Reported.

Table 3. Long Term Trends (LTT) Rivers PFAS Surface Water Results 2020. Current WI PFAS surface water standards are PFOS = 8.0 ng/L (ppt) and PFOA = 95 ng/L (ppt). All PFAS compounds analyzed by the WI State Lab of Hygiene.

		10/16/20	10/16/20	10/19/20	10/19/20	10/19/20	10/19/20	10/20/20	10/20/20
Description	Acronym	Pecatonica River at Martintown	Sugar River at Ten Eyck Rd Near Brodhead	Menominee River at County Hwy JJ	Peshtigo WI at Business 41, Peshtigo	Oconto River at Hwy 41, Oconto	Fox River above De Pere Dam	Rock River at Afton	Rock River below Milwaukee St Bridge, Watertown
Perfluoro-n-butanoic acid	PFBA	14.6	16.9	<2.55	<2.61	<2.67	2.78*	83.2	22.6
Perfluoro-n-pentanoic acid	PFPeA	<0.317	1.15	<0.326	0.682	<0.341	<0.336	43.7	<0.320
Perfluoro-n-hexanoic acid	PFHxA	<0.374	0.938	0.497*	1.16	<0.403	<0.398	60.1	<0.378
Perfluoro-n-heptanoic acid	PFHpA	<0.421	<0.421	0.496*	0.758*	<0.454	1.02	2.24	1.26
<b>Perfluoro-n-octanoic acid</b>	<b>PFOA</b>	<b>&lt;0.410</b>	<b>&lt;0.411</b>	<b>0.564*</b>	<b>0.832*</b>	<b>0.780*</b>	<b>1.71</b>	<b>1.81</b>	<b>1.61</b>
Perfluoro-n-nonanoic acid	PFNA	<0.386	<0.386	<0.398	<0.406	<0.416	0.556*	<0.387	<0.390
Perfluoro-n-decanoic acid	PFDA	<0.351	<0.351	<0.362	<0.370	<0.378	0.508*	<0.353	<0.355
Perfluoro-n-undecanoic acid	PFUnA	NA	<0.364	<0.375	<0.383	<0.392	<0.386	<0.365	<0.367
Perfluoro-n-dodecanoic acid	PFDoA	NA	<0.343	<0.354	<0.361	<0.370	0.476*	<0.345	<0.347
Perfluoro-n-tridecanoic acid	PFTrDA	NA	<0.358	<0.369	<0.377	<0.386	<0.381	<0.360	<0.362
Perfluoro-n-tetradecanoic acid	PFTeDA	NA	<0.317	<0.326	<0.333	<0.341	<0.336	<0.318	<0.320
Perfluoro-n-butananesulfonic acid	PFBS	<0.392	<0.392	<0.404	<0.413	<0.422	<0.416	<0.394	<0.396
Perfluoro-n-pentanesulfonic acid	PFPeS	<0.242	<0.243	<0.250	<0.255	<0.261	<0.258	<0.243	<0.245
Perfluoro-n-hexanesulfonic acid	PFHxS	<0.366	0.466*	<0.377	<0.386	<0.395	0.727*	1.69	<0.370
Perfluoro-n-heptanesulfonic acid	PFHpS	<0.357	<0.358	<0.368	<0.376	<0.385	<0.380	<0.359	<0.361
<b>Perfluoro-n-octanesulfonic acid</b>	<b>PFOS</b>	<b>&lt;0.303</b>	<b>&lt;0.304</b>	<b>&lt;0.313</b>	<b>&lt;0.320</b>	<b>&lt;0.327</b>	<b>0.897</b>	<b>1.45</b>	<b>0.551</b>
Perfluoro-n-nonanesulfonic acid	PFNS	<0.447	<0.447	<0.460	<0.470	<0.481	<0.475	<0.449	<0.451
Perfluoro-n-decanesulfonic acid	PFDS	NA	<0.407	<0.419	<0.428	<0.439	<0.432	<0.409	<0.411
Perfluoro-n-dodecanesulfonic acid	PFDoS	NA	<0.463	<0.477	<0.487	<0.499	<0.492	<0.465	<0.467
4:2 Fluorotelomer sulfonic acid	4:2 FTS	<0.403	<0.404	<0.416	<0.425	<0.435	<0.429	<0.405	<0.408
6:2 Fluorotelomer sulfonic acid	6:2 FTS	0.493*	<0.458	<0.471	<0.482	<0.493	<0.486	<0.459	2.86
8:2 Fluorotelomer sulfonic acid	8:2 FTS	<0.399	<0.399	<0.411	<0.420	<0.430	<0.424	<0.401	<0.403
10:2 Fluorotelomer sulfonic acid	10:2 FTS	NA	<0.388	<0.399	<0.408	<0.418	<0.412	<0.389	<0.391
Perfluorooctanesulfonamide	PFOSA	<3.63	<3.64	<3.75	<3.83	<3.92	<3.86	<3.65	<3.67
N-Ethyl perfluorooctanesulfonamidoethanol	NEtFOSE	NA	<0.369	<0.380	<0.388	<0.398	<0.392	<0.370	<0.373
N-Methyl perfluorooctanesulfonamidoethanol	NMeFOSE	NA	<0.362	<0.373	<0.381	<0.390	<0.384	<0.363	<0.366

N-ethyl perfluorooctanesulfonamide	NEtFOSA	NA	<0.589	<0.606	<0.619	<0.634	<0.625	<0.591	<0.594
N-methyl perfluorooctanesulfonamide	NMeFOSA	NA	<0.719	<0.740	<0.756	<0.774	<0.763	<0.721	<0.726
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	NA	<0.383	<0.395	<0.403	<0.413	<0.407	<0.385	<0.387
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	0.566*	<0.480	<0.494	<0.505	<0.517	<0.509	<0.482	<0.484
4,8-Dioxa-3H-perfluorononanoic acid	HFPO-DA	<0.376	<0.376	<0.387	<0.396	<0.405	<0.399	<0.378	<0.380
Hexafluoropropylene oxide dimer acid	DONA	NA	<0.472	<0.486	<0.496	<0.508	<0.501	<0.474	<0.476
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS	<0.375	<0.375	<0.387	<0.395	<0.404	<0.399	<0.377	<0.379
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	NA	<0.352	<0.363	<0.371	<0.379	<0.374	<0.354	<0.356

All concentrations in ng/L (ppt).

\*Value between Limit of Detection (LOD) and Limit of Quantitation (LOQ)

Values with (<) are below the LOD. NA = Not Analyzed or Reported.



Table 4. Long Term Trends (LTT) Rivers PFAS Surface Water Results 2020. Current WI PFAS surface water standards are PFOS = 8.0 ng/L (ppt) and PFOA = 95 ng/L (ppt). All PFAS compounds analyzed by the WI State Lab of Hygiene.

		10/21/20	10/21/20	10/21/20	10/21/20	10/21/20	10/21/20	10/27/20	10/27/20	10/27/20	10/27/20
Description	Acronym	Milwaukee River at Estabrook Park, Milwaukee	Grant River at Hwy N near Burton	Sheboygan River at Esslingen Park	Kickapoo River at Bridge St, Steuben	Wisconsin River at Hwy 80, Muscoda	Root River at Johnson Park	Wolf River at New London	Fox River at Berlin WI	Fox River at Main St Bridge Oshkosh	Fox River at Lake Winnebago Outlet, Neenah
Perfluoro-n-butanoic acid	PFBA	<2.65	<2.48	<2.57	<2.49	<2.48	4.79*	<2.50	<2.55	<2.52	3.15*
Perfluoro-n-pentanoic acid	PFPeA	2.44	<0.318	0.496	NA	NA	3.34	NA	<0.326	NA	NA
Perfluoro-n-hexanoic acid	PFHxA	3.26	<0.375	1.18	<0.377	<0.374	6.97	<0.378	<0.385	<0.381	<0.378
Perfluoro-n-heptanoic acid	PFHpA	1.28	<0.422	0.537*	<0.424	<0.421	3.18	<0.426	0.578*	<0.429	<0.426
<b>Perfluoro-n-octanoic acid</b>	<b>PFOA</b>	<b>3.01</b>	<b>&lt;0.412</b>	<b>0.962</b>	<b>&lt;0.413</b>	<b>4.04</b>	<b>6.07</b>	<b>0.469*</b>	<b>&lt;0.422</b>	<b>0.831*</b>	<b>1.17</b>
Perfluoro-n-nonanoic acid	PFNA	<0.413	<0.387	<0.400	<0.388	<0.386	0.967	<0.390	<0.396	<0.393	<0.390
Perfluoro-n-decanoic acid	PFDA	<0.376	<0.352	<0.364	<0.353	<0.351	0.666*	<0.355	<0.361	<0.358	<0.355
Perfluoro-n-undecanoic acid	PFUnA	<0.389	<0.365	<0.377	<0.366	<0.363	<0.378	<0.367	<0.374	<0.370	<0.368
Perfluoro-n-dodecanoic acid	PFDoA	<0.368	<0.344	<0.356	<0.345	<0.343	<0.357	<0.347	<0.353	<0.350	<0.347
Perfluoro-n-tridecanoic acid	PFTTrDA	<0.384	<0.359	<0.371	<0.360	<0.358	<0.373	<0.362	<0.368	<0.365	<0.362
Perfluoro-n-tetradecanoic acid	PFTeDA	<0.339	<0.318	<0.328	<0.319	<0.317	<0.330	<0.320	<0.326	<0.323	<0.320
Perfluoro-n-butananesulfonic acid	PFBS	3.43	<0.393	0.826*	<0.394	<0.392	3.55	<0.396	1.39	<0.399	<0.396
Perfluoro-n-pentanesulfonic acid	PFPeS	0.666	<0.243	<0.251	<0.244	1.13	<0.252	<0.245	<0.249	<0.247	0.321*
Perfluoro-n-hexanesulfonic acid	PFHxS	5.65	<0.367	0.387*	<0.368	0.429	1.66	<0.370	<0.376	<0.373	0.572*
Perfluoro-n-heptanesulfonic acid	PFHpS	<0.383	<0.358	<0.370	<0.360	<0.357	<0.372	<0.361	<0.367	<0.364	<0.361
<b>Perfluoro-n-octanesulfonic acid</b>	<b>PFOS</b>	<b>1.52</b>	<b>&lt;0.304</b>	<b>0.682</b>	<b>&lt;0.305</b>	<b>3.19</b>	<b>2.79</b>	<b>0.492</b>	<b>&lt;0.312</b>	<b>0.856</b>	<b>2.17</b>
Perfluoro-n-nonanesulfonic acid	PFNS	<0.478	<0.448	<0.463	<0.449	<0.447	<0.465	<0.451	<0.459	<0.455	<0.452
Perfluoro-n-decanesulfonic acid	PFDS	<0.436	<0.408	<0.422	<0.409	<0.407	<0.424	<0.411	<0.418	<0.414	<0.412
Perfluoro-n-dodecanesulfonic acid	PFDoS	<0.495	<0.464	<0.479	<0.466	<0.463	<0.482	<0.468	<0.476	<0.471	<0.468
4:2 Fluorotelomer sulfonic acid	4:2 FTS	<0.432	<0.405	<0.418	<0.406	<0.403	<0.420	<0.408	<0.415	<0.411	<0.408
6:2 Fluorotelomer sulfonic acid	6:2 FTS	<0.490	<0.459	<0.474	NA	NA	<0.476	NA	<0.470	NA	NA
8:2 Fluorotelomer sulfonic acid	8:2 FTS	<0.427	<0.400	<0.413	<0.401	<0.399	<0.415	<0.403	<0.410	<0.406	<0.404
10:2 Fluorotelomer sulfonic acid	10:2 FTS	<0.415	<0.389	NA	NA	NA	NA	NA	<0.398	NA	NA
Perfluorooctanesulfonamide	PFOSA	<3.89	<3.65	<3.77	NA	NA	<3.78	NA	<3.74	NA	NA
N-Ethyl perfluorooctanesulfonamidoethanol	NEtFOSE	<0.395	<0.370	<0.382	NA	NA	<0.384	NA	<0.379	NA	NA
N-Methyl perfluorooctanesulfonamidoethanol	NMeFOSE	<0.387	<0.363	<0.375	NA	NA	<0.377	NA	<0.372	NA	NA

N-ethyl perfluorooctanesulfonamide	NEtFOSA	<0.630	<0.590	<0.609	NA	NA	<0.612	NA	<0.605	NA	NA
N-methyl perfluorooctanesulfonamide	NMeFOSA	<0.769	<0.721	<0.744	NA	NA	<0.748	NA	<0.738	NA	NA
N-ethyl perfluorooctanesulfonamidoacetic acid	NEtFOSAA	<0.410	<0.384	<0.397	NA	NA	<0.399	NA	<0.394	NA	NA
N-methyl perfluorooctanesulfonamidoacetic acid	NMeFOSAA	<0.513	<0.481	<0.497	NA	NA	<0.499	NA	<0.493	NA	NA
4,8-Dioxa-3H-perfluorononanoic acid	HFPO-DA	<0.403	<0.377	<0.389	<0.378	<0.376	<0.391	<0.380	<0.386	<0.383	<0.380
Hexafluoropropylene oxide dimer acid	DONA	<0.505	<0.473	<0.488	NA	NA	<0.491	NA	<0.485	NA	NA
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	9Cl-PF3ONS	<0.402	<0.376	<0.389	<0.377	<0.375	<0.390	<0.379	<0.386	<0.382	<0.379
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	<0.377	<0.353	<0.365	<0.354	<0.352	<0.366	<0.356	<0.362	<0.359	<0.356

All concentrations in ng/L (ppt).

\*Value between Limit of Detection (LOD) and Limit of Quantitation (LOQ)

Values with (<) are below the LOD. NA = Not Analyzed or Reported.