

2024 Iowa Fish Tissue Monitoring Program Summary of Analyses

Prepared by:

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Background:

Since 1977, the Iowa Department of Natural Resources (DNR) has conducted annual statewide collections of Iowa fish and sent tissue samples to laboratories for the analyses of toxic contaminants. Beginning in 2014, after the Region VII Environmental Protection Agency changed their program support, the only statewide fish contaminant-monitoring program in Iowa was changed to the Iowa Fish Tissue Monitoring Program (IFTMP).

The IFTMP is administered by DNR Water Quality Monitoring and Assessment Section (WQMA) and the DNR Fisheries Bureau. Historically, the data generated from the IFTMP have enabled DNR and to identify Iowa lakes and rivers where high levels of contaminants in fish potentially threaten the health of those consuming Iowa caught fish (status sampling) and to document temporal changes in contaminant levels (trend sampling).

The Iowa Department of Health and Human Services (DHHS), formerly Iowa Department of Public Health (IDPH), developed contaminant advisory thresholds and meal suggestions in 2007 (IDPH 2007). DNR reports and issues general consumption guidelines and waterbody specific advisories based on IFTMP data (see DNR 2006). For additional information about fish consumption safety and about the IFTMP program, go to <https://iowadnr.gov/fishadvice>. To see and download all IFTMP sampling data from DNR's online water quality monitoring database, AQuIA, go to <https://programs.iowadnr.gov/aquia/Facilities/IFTM/Detail>.

2024 IFTMP Sampling and Processing:

2024 Status sampling:

For each of the 22 status samples, three Common Carp or three Channel Catfish 16-24 inches were collected (Table 1). The fish were immediately placed on ice, frozen, and processed according to DNR IFTMP sampling procedures (DNR 2024). DNR staff removed one fillet from each fish and the 22 skinless fillet status samples (each sample contained 3 fillets) were shipped to the laboratory where they were composited, ground, and analyzed.

Table 1. Sample ID, AQuIA site ID, site information, and fish data for the 2024 IFTMP status samples.

Sample ID	AQuIA Site ID	Site Name	County	Species	Mean Length (in)	Mean Weight (lb)	Sample Biopart
4129	1062	East Fork Des Moines River	Humboldt	Channel Catfish	17.4	1.61	skin off fillet
4130	1065	Big Sioux River	Sioux	Common Carp	20.6	4.21	skin off fillet
4132	1078	Lake Meyers	Winneshiek	Channel Catfish	19.2	2.33	skin off fillet
4133	1082	North Raccoon River	Sac	Common Carp	22.0	4.90	skin off fillet
4134	1083	East Nishnabotna River	Fremont	Common Carp	19.4	3.56	skin off fillet
4135	1110	Nishnabotna River	Fremont	Channel Catfish	20.5	2.74	skin off fillet
4136	1167	Iowa River	Louisa	Common Carp	21.9	4.78	skin off fillet
4138	1169	Skunk River	Lee	Common Carp	24.6	7.39	skin off fillet
4140	1170	Des Moines River	Polk	Common Carp	19.3	3.84	skin off fillet
4143	1174	Wapsipinicon River	Scott	Common Carp	20.1	3.79	skin off fillet
4145	1204	Mississippi River	Clayton	Common Carp	21.1	4.69	skin off fillet
4146	1290	Crystal Lake	Hancock	Common Carp	16.5	2.39	skin off fillet
4147	1296	Fogle Lake	Ringgold	Channel Catfish	22.5	4.60	skin off fillet
4148	1306	Minnewashta Lake	Dickinson	Common Carp	22.7	5.87	skin off fillet
4149	1312	Littlefield Lake	Audubon	Channel Catfish	19.0	2.84	skin off fillet
4150	1314	Mariposa Lake	Jasper	Channel Catfish	19.4	2.39	skin off fillet
4151	1319	Nelson Park Lake	Crawford	Channel Catfish	17.1	1.95	skin off fillet
4152	1329	Slip Bluff Lake	Decatur	Channel Catfish	18.3	1.93	skin off fillet
4153	1330	South Prairie Lake	Black Hawk	Channel Catfish	18.0	2.26	skin off fillet
4154	1340	Williamson Pond	Lucas	Channel Catfish	20.5	3.50	skin off fillet
4155	1357	Maquoketa River (D)	Jackson	Common Carp	19.1	3.71	skin off fillet
4156	1363	Upper Iowa River (D)	Allamakee	Channel Catfish	18.6	2.29	skin off fillet

2024 Trend Sampling:

For each of the six trend samples, three Common Carp 16-24 inches were collected (Table 2). The fish were immediately placed on ice, frozen, and processed according to DNR IFTMP sampling procedures (DNR 2024). The six trend samples (each sample contained 3 carp) were shipped whole to the laboratory where they were composited, ground, and analyzed.

Table 2. Sample ID, AQuIA site ID, site information, and fish data for the 2024 IFTMP trend samples.

Sample ID	AQuIA Site ID	Site Name	County	Species	Mean Length (in)	Mean Weight (lbs)	Sample Biopart
4131	1065	Big Sioux River	Sioux	Common Carp	21.0	4.43	whole
4137	1167	Iowa River	Louisa	Common Carp	20.9	4.22	whole
4139	1169	Skunk River	Lee	Common Carp	21.8	4.88	whole
4141	1170	Des Moines River	Polk	Common Carp	19.6	3.44	whole
4142	1172	Mississippi River	Allamakee	Common Carp	16.7	2.67	whole
4144	1174	Wapsipinicon River	Scott	Common Carp	19.9	4.11	whole

2024 IFTMP Analytical Results:

The 2024 IFTMP status (Table 3) and trend (Table 4) samples were analyzed for chlordane, DDE, dieldrin, lead, mercury, selenium, and polychlorinated biphenyls (PCBs). All contaminant levels in the samples were below the respective DNR/DHHS advisory thresholds or were not detected ([Appendix A](#)) for all sites ([Appendix B](#)). The full 2024 IFTMP sampling results can be found in [Appendix C](#).

2024 IFTMP Status Results:

Table 3. 2024 IFTMP status chlordane, mercury, and total PCBs sampling results (detections are in bold). See [Appendix B](#) for 2024 IFTMP site information and [Appendix C](#) for 2024 IFTMP full sampling results.

Sample ID	AQuIA Site ID	Site Name	County	Date	Sample Type	chlordane, technical (mg/kg)	mercury (mg/kg)	total PCBs (mg/kg)
4129	1062	E. Fork Des Moines River	Humboldt	9/4/2024	status	<0.0501	0.065	J0.0325
4130	1065	Big Sioux River	Sioux	9/25/2024	status	<0.0500	0.075	<0.0246
4132	1078	Lake Meyers	Winneshiek	8/30/2024	status	<0.0500	0.049	<0.0246
4133	1082	North Raccoon River	Sac	9/26/2024	status	<0.0500	0.150	J0.0249
4134	1083	East Nishnabotna River	Fremont	9/25/2024	status	<0.0501	0.100	<0.0246
4135	1110	Nishnabotna River	Fremont	9/24/2024	status	<0.0499	0.079	J0.0346
4136	1167	Iowa River	Louisa	9/12/2024	status	<0.0500	0.110	J0.0297
4138	1169	Skunk River	Lee	9/13/2024	status	<0.0500	0.190	J0.0456
4140	1170	Des Moines River	Polk	8/27/2024	status	<0.0500	0.076	J0.0325
4143	1174	Wapsipinicon River	Scott	9/24/2024	status	<0.0500	0.140	<0.0246
4145	1204	Mississippi River	Clayton	10/20/2024	status	<0.0500	0.100	J0.0353
4146	1290	Crystal Lake	Hancock	10/9/2024	status	<0.0500	0.022	<0.0246
4147	1296	Fogle Lake	Ringgold	9/9/2024	status	<0.0500	0.028	<0.0246
4148	1306	Minnewashta Lake	Dickinson	10/8/2024	status	<0.0499	0.034	<0.0246
4149	1312	Littlefield Lake	Audubon	9/6/2024	status	<0.0499	0.020	<0.0246
4150	1314	Mariposa Lake	Jasper	8/29/2024	status	<0.0499	0.098	<0.0246
4151	1319	Nelson Park Lake	Crawford	10/11/2024	status	<0.0500	0.042	<0.0246
4152	1329	Slip Bluff Lake	Decatur	8/29/2024	status	<0.0501	0.072	<0.0246
4153	1330	South Prairie Lake	Black Hawk	8/22/2024	status	<0.0500	0.021	<0.0246
4154	1340	Williamson Pond	Lucas	8/21/2024	status	<0.0500	0.051	<0.0246
4155	1357	Maquoketa River (D)	Jackson	9/6/2024	status	<0.0500	0.094	J0.0256
4156	1363	Upper Iowa River (D)	Allamakee	9/4/2024	status	<0.0499	0.190	0.0484

The < symbol leading the data indicates the concentration was below the reporting limit or "not-detected."

The J code leading the data indicates an estimated concentration above the method detection limit and below the reporting limit.

2024 IFTMP Trend Results:

Table 4. 2024 IFTMP trend chlordane, mercury, and total PCBs sampling results (detections are in bold). See [Appendix B](#) for 2024 IFTMP site information and [Appendix C](#) for 2024 IFTMP full sampling results.

Sample ID	AQuIA Site ID	Site Name	County	Date	Sample Type	chlordane, technical (mg/kg)	mercury (mg/kg)	total PCBs (mg/kg)
4131	1065	Big Sioux River	Sioux	9/25/2024	trend	<0.0500	0.039	0.0365
4137	1167	Iowa River	Louisa	9/12/2024	trend	<0.0500	0.068	0.0832
4139	1169	Skunk River	Lee	9/13/2024	trend	<0.0500	0.110	0.0651
4141	1170	Des Moines River	Polk	8/27/2024	trend	<0.0500	0.079	0.0661
4142	1172	Mississippi River	Allamakee	10/21/2024	trend	<0.0500	0.043	0.0501
4144	1174	Wapsipinicon River	Scott	9/24/2024	trend	<0.0499	0.076	J0.0349
The < symbol leading the data indicates the concentration was below the reporting limit or “not-detected.”								
The J code leading the data indicates an estimated concentration above the method detection limit and below the reporting limit.								

References:

- DNR. 2006. Fish Tissue Monitoring in Iowa. Water Fact Sheet 2006-5. Geological and Water Survey, Iowa Department of Natural Resources. pp. 1-4. (<https://publications.iowa.gov/5350/1/WFS-2006-05.pdf>)
- DNR. 2024. Sampling Procedures for the Iowa DNR Fish Tissue Monitoring Program (IFTMP). Water Quality Bureau, Environmental Services Division, Iowa Department of Natural Resources. pp. 1-4.
- IDPH. 2007. Fish Consumption Advisory Protocol in Iowa. Iowa Department of Public Health. pp. 1-8.

Appendix A

Summary of IFTMP contaminants and their respective advisory thresholds and meal suggestions. Advisory thresholds and meal suggestions were developed in 2007 by DHHS, formerly IDPH (IDPH 2007).

#	Contaminant	Affected Population	DNR/IDPH advisory threshold (mg/kg wet weight or ppm)	DNR/IDPH advisory meal suggestion
1	chlordane, technical	general	0 to 0.6	unrestricted
			>0.6 to <5.0	one meal per week
			≥5.0	do not eat
2	mercury	sensitive	0 to 0.3	unrestricted
			>0.3 to <1.0	one meal per week
			≥1.0	do not eat
3	PCB, Aroclor 1248	general	sum = 0 to 0.2	unrestricted
4	PCB, Aroclor 1254		sum >0.2 to <2.0	one meal per week
5	PCB, Aroclor 1260		sum 2.0 and over	do not eat
6	dieldrin			
7	DDE, DDT, DDD			
8	lead			
9	selenium			

Appendix B

AQuIA site ID and locational information for the 2024 IFTMP sites.

AQuIA Site ID	Site Name	Site Location	County	Waterbody Type
1062	East Fork Des Moines River	at Dakota City	Humboldt	River/Stream
1065	Big Sioux River	N of Hawarden	Sioux	River/Stream
1078	Lake Meyers	W of Calmar	Winneshiek	Lake
1082	North Raccoon River	downstream of Sac City	Sac	River/Stream
1083	East Nishnabotna River	W of Riverton	Fremont	River/Stream
1110	Nishnabotna River	at Hamburg	Fremont	River/Stream
1167	Iowa River	E of Wapello	Louisa	River/Stream
1169	Skunk River	NE of Wever	Lee	River/Stream
1170	Des Moines River	at Des Moines	Polk	River/Stream
1174	Wapsipinicon River	SSE of Grand Mound	Scott	River/Stream
1204	Mississippi River (Pool 10)	at Marquette/McGregor	Clayton	River/Stream
1290	Crystal Lake	Crystal Lake Wildlife Management Area	Hancock	Lake
1296	Fogle Lake	at Diagonal	Ringgold	Lake
1306	Minnewashta Lake	Minnewashta Lake Wildlife Management Area	Dickinson	Lake
1312	Littlefield Lake	Littlefield County Park / Recreation Area	Audubon	Lake
1314	Mariposa Lake	Mariposa County Park	Jasper	Lake
1319	Nelson Park Lake	Nelson Park	Crawford	Lake
1329	Slip Bluff Lake	Slip Bluff County Park NW of Davis City	Decatur	Lake
1330	South Prairie Lake	Prairie Lake Park in Cedar Falls	Black Hawk	Lake
1340	Williamson Pond	Williamson Pond Wildlife Management Area	Lucas	Lake
1357	Maquoketa River (D)	Spragueville Access	Jackson	River/Stream
1363	Upper Iowa River (D)	Wild Landing	Allamakee	River/Stream
1172	Mississippi River (Pool 9)	at Lansing	Allamakee	River/Stream

Appendix C

Complete list of 2024 IFTMP sampling results in wet weight (mg/kg or ppm) with detections in bold.

Sample ID	AQuIA Site ID	Date	Sample Type	chlordane, cis-	chlordane, technical	chlordane, trans-	DDE	dieldrin	lead	mercury	selenium	PCB, Aroclor 1248	PCB, Aroclor 1254	PCB, Aroclor 1260	total PCBs
4129	1062	9/4/2024	status	<0.0025	<0.0501	<0.0025	0.0057	<0.0050	0.130	0.065	0.66	<0.0082	J0.0101	J0.0142	J0.0325
4130	1065	9/25/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.093	0.075	1.20	<0.0082	<0.0082	<0.0082	<0.0246
4132	1078	8/30/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.099	0.049	0.17	<0.0082	<0.0082	<0.0082	<0.0246
4133	1082	9/26/2024	status	<0.0025	<0.0500	<0.0025	0.0090	<0.0050	<0.098	0.150	1.30	<0.0082	J0.0085	<0.0082	J0.0249
4134	1083	9/25/2024	status	<0.0025	<0.0501	<0.0025	<0.0010	<0.0050	<0.098	0.100	1.40	<0.0082	<0.0082	<0.0082	<0.0246
4135	1110	9/24/2024	status	<0.0025	<0.0499	<0.0025	0.0075	<0.0050	<0.094	0.079	0.58	<0.0082	J0.0182	<0.0082	J0.0346
4136	1167	9/12/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.098	0.110	0.66	<0.0082	J0.0115	J0.0100	J0.0297
4138	1169	9/13/2024	status	<0.0025	<0.0500	<0.0025	0.0100	<0.0050	<0.097	0.190	0.82	<0.0082	J0.0229	J0.0145	J0.0456
4140	1170	8/27/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.088	0.076	1.50	<0.0082	J0.0161	<0.0082	J0.0325
4143	1174	9/24/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.094	0.140	0.61	<0.0082	<0.0082	<0.0082	<0.0246
4145	1204	10/20/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	0.120	0.100	0.45	<0.0082	J0.0189	<0.0082	J0.0353
4146	1290	10/9/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.091	0.022	0.34	<0.0082	<0.0082	<0.0082	<0.0246
4147	1296	9/9/2024	status	<0.0025	<0.0500	<0.0025	0.0104	<0.0050	<0.098	0.028	0.18	<0.0082	<0.0082	<0.0082	<0.0246
4148	1306	10/8/2024	status	<0.0025	<0.0499	<0.0025	0.0053	<0.0050	<0.094	0.034	0.32	<0.0082	<0.0082	<0.0082	<0.0246
4149	1312	9/6/2024	status	<0.0025	<0.0499	<0.0025	<0.0010	<0.0050	<0.091	0.020	0.37	<0.0082	<0.0082	<0.0082	<0.0246
4150	1314	8/29/2024	status	<0.0025	<0.0499	<0.0025	<0.0010	<0.0050	<0.100	0.098	0.32	<0.0082	<0.0082	<0.0082	<0.0246
4151	1319	10/11/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.095	0.042	0.31	<0.0082	<0.0082	<0.0082	<0.0246
4152	1329	8/29/2024	status	<0.0025	<0.0501	<0.0025	<0.0010	<0.0050	0.430	0.072	<0.15	<0.0082	<0.0082	<0.0082	<0.0246
4153	1330	8/22/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.091	0.021	0.19	<0.0082	<0.0082	<0.0082	<0.0246
4154	1340	8/21/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	0.340	0.051	0.20	<0.0082	<0.0082	<0.0082	<0.0246
4155	1357	9/6/2024	status	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.099	0.094	0.49	<0.0082	J0.0092	<0.0082	J0.0256
4156	1363	9/30/2024	status	<0.0025	<0.0499	<0.0025	<0.0010	<0.0050	<0.100	0.190	0.42	<0.0082	0.0289	J0.0113	0.0484
4131	1065	9/25/2024	trend	<0.0025	<0.0500	<0.0025	0.0051	<0.0050	<0.100	0.039	1.10	<0.0082	J0.0159	J0.0124	0.0365
4137	1167	9/12/2024	trend	<0.0025	<0.0500	<0.0025	0.0099	0.0057	0.140	0.068	0.58	J0.0109	0.0411	0.0312	0.0832
4139	1169	9/13/2024	trend	<0.0025	<0.0500	<0.0025	0.0132	0.0059	0.095	0.110	0.78	J0.0125	0.0320	J0.0206	0.0651
4141	1170	8/27/2024	trend	0.0026	<0.0500	<0.0025	0.0176	0.0057	0.160	0.079	1.30	J0.0123	0.0328	J0.0210	0.0661
4142	1172	10/21/2024	trend	<0.0025	<0.0500	<0.0025	<0.0010	<0.0050	<0.099	0.043	0.41	J0.0116	0.0296	J0.0089	0.0501
4144	1174	9/24/2024	trend	<0.0025	<0.0499	<0.0025	<0.0010	0.0050	1.600	0.076	0.64	<0.0082	J0.0184	J0.0083	J0.0349
The < symbol leading the data indicates the concentration was below the reporting limit or "not-detected."															
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