

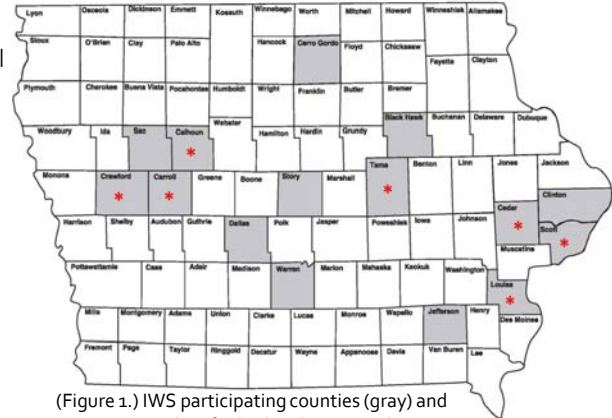


IOWA WELL SURVEY

2017 SUMMARY REPORT

The Iowa Well Survey is an ongoing study by the State Hygienic Laboratory intended to characterize the water quality in private wells in Iowa. The survey expands the knowledge of the concentration and distribution of existing and emerging contaminants that affect the health of Iowans consuming water from private wells.

The initial well survey took place in the fall of 2017 and included analysis of up to 290 untreated and treated private well samples collected in 15 counties located throughout the state (Figure 1). Well samples were tested for total coliform bacteria, *E. coli*, nitrate, nitrite, arsenic and neonicotinoid insecticides. The State Hygienic Laboratory also recruited seven of the 15 counties to collect supplemental samples for analysis of several herbicide compounds and associated degradedates of the parent compound. A total of 116 untreated and treated samples were analyzed for these herbicide and degradate compounds. Table 1 provides a cumulative summary of all compounds with a quantifiable concentration present in the samples.



(Figure 1.) IWS participating counties (gray) and counties sampling for herbicides (asterisk).

Herbicide parent compounds: Acetochlor, Alachlor, Ametryn, Atrazine, Butachlor, Butylate, Cyanazine, Dimethenamid, EPTC, Glyphosate, Metolachlor, Metribuzin, Prometon, Propachlor, Propazine, Simazine, Trifluralin.

Herbicide degradate compounds: Acetochlor ESA, Acetochlor OXA, Alachlor ESA, Alachlor OXA, Desethyl Atrazine, Desisopropyl Atrazine, Dimethenamid ESA, Dimethenamid OXA, AMPA (Glyphosate degradate), Metolachlor ESA, Metolachlor OXA.

Compound	Total Wells Tested	Total with Quantifiable Concentration	Total with Concentration above MCL*	% with Detected Contamination
Total Coliform Bacteria	280	100	0	36%
<i>E. coli</i>	257	9	100	4%
Nitrate as N	279	125	9	45%
Nitrite as N	290	3	37	1%
Total Arsenic	273	94	1	34%
Neonicotinoids†	280	4	4	1%
Acetochlor ESA†	116	27	27	23%
Acetochlor OXA†	116	4	4	3%
Alachlor ESA†	116	31	31	27%
Alachlor OXA†	116	4	4	3%
Glyphosate	116	1	1	1%
Metolachlor†	116	9	9	8%
Metolachlor ESA†	116	47	47	41%
Metolachlor OXA†	116	20	20	17%

(Table 1.)

* MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

† Compound does not have an established Maximum Contaminant Level as set by the EPA. Additional guidance may be available in the EPA 2012 Edition of the Drinking Water Standards and Health Advisories. Due to unknown health affects, any quantifiable detection is noted as an exceedance of the MCL.