

# Changes in Lead Service Line Reporting by Illinois Water Utilities (2018-2019)

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## Summary

This report compares data from the Public Water Supply Service Line Material Inventory by the Illinois EPA from 2018 to 2019. During this analysis, we identified several water utilities which reported a suspicious decrease in Unknown service lines and a simultaneous increase in Unknown But Not Lead service lines. Outlined below are these trends and a table of the flagged utilities.

## Trends

### Service Line Changes

Overall, some categories of service lines have remained largely the same from 2018 to 2019 while others have changed (Table 1). On average, the total number of service lines reported has not significantly changed. Neither have the categories of Lead, CopperLeadSolder, CopperNonLeadSolder, CastDuctileIronTransite, and Galvanized. For two types of service lines, however, the number reported has significantly increased: UnknownNotLead and Plastic. Finally, there has been a significant decrease in the reported number of UnknownMaterial lines. These results suggest that utilities may be reclassifying the UnknownMaterial lines for the 2019 reporting year.

**Table 1: Service Line Averages (2018 - 2019)**

The average number of lines reported for each service line category was compared from 2018 to 2019 using a paired t-test ( $\alpha = 0.05$ ). There was a significant increase in UnknownNotLead and Plastic lines, and a significant decrease in UnknownMaterial lines.

Service Line	2018 (n = 1751)		2019 (n = 1752)		t	p
	Mean	SD	Mean	SD		
Total	2194	13375	2196	13372	-0.18	0.86
Lead	392	9443	387	9372	1.48	0.14
CopperLeadSolder	182	1001	217	1259	-1.59	0.11
CopperNonLeadSolder	746	2564	748	2482	-0.13	0.89
CastDuctileIronTransite	17	217	20	246	-1.17	0.24
Galvanized	34	191	34	177	0.04	0.97
Plastic	134	427	147	479	-2.66	0.01
UnknownMaterial	610	3931	455	3308	3.37	0.00
UnknownNotLead	81	1037	188	2101	-2.47	0.01

## Flagged Utilities

To understand this potential reclassification and its implications for lead service line data, we compared the decrease in UnknownMaterial lines to the increase in UnknownNotLead lines and found the following:

-Of the 1742 water utilities catalogued by IL EPA across both years, 141 (8.1%) reported a decrease in UnknownMaterial lines and an increase in UnknownNotLead lines after overall increases in service lines were accounted for.

-53 of those utilities (3% of the total) reported exactly the same decrease in UnknownMaterial lines and increase in UnknownNotLead lines. This suggests that some utilities may be reclassifying all of their UnknownMaterial lines as UnknownNotLead.

-On average, the 53 flagged utilities increased their proportion of UnknownNotLead lines by 56.8% (Table 2)

-19 utilities increased their proportion of UnknownNotLead lines by 100%. This means that, for these 19 utilities, all of their service lines were classified in 2018 as UnknownMaterial and reclassified in 2019 as UnknownNotLead.

**Table 2: Summary Statistics of the Percent Change in UnknownNotLead**

53 utilities were flagged for reporting equal and opposite changes between 2018 and 2019 in Unknown and UnknownNotLead service lines. Summary statistics describing the average percent change in UnknownNotLead for the flagged sample are shown.

Observations	Mean	S.D.	Min	Max	Mode
53	56.8	39.2	0.4	100	100

**Table 3: Flagged water utilities by county**

141 of 1742 utilities were flagged for reporting similar, opposite changes between 2018 and 2019 in Unknown and Unknown But Not Lead service lines. Utilities which saw an exactly equal and opposite change between these two categories are additionally highlighted.

Utility Name	Total Service Lines (2019)	Change in percentage of total lines that are Unknown Not Lead	Decrease in Unknown lines and increase in Unknown Not Lead lines?	Equal decrease in Unknown lines and increase in Unknown Not Lead lines?
<b>Alexander</b>				
Illinois American - Cairo (PWS)	2635	99.7	Yes	No
<b>Bond</b>				
Mulberry Grove (PWS)	318	12.3	Yes	Yes
<b>Brown</b>				
Mount Sterling (PWS)	1227	5.7	Yes	No
<b>Bureau</b>				
Bureau Junction (PWS)	122	63.1	Yes	Yes
Arlington (PWS)	68	16.2	Yes	Yes
<b>Cass</b>				
Chandlerville (PWS)	282	17.4	Yes	Yes
<b>Champaign</b>				
Illinois American - Champaign (PWS)	55684	95.0	Yes	No
Tolono (PWS)	1306	23.2	Yes	Yes
Homer (PWS)	514	57.2	Yes	No
Ilur Liberty Commons MHP (PWS)	440	68.2	Yes	No
Gifford (PWS)	381	32.0	Yes	No
Heritage Estates Mhp (PWS)	221	80.5	Yes	No

(continued)

Utility Name	Total Service Lines (2019)	Change in percentage of total lines that are Unknown Not Lead	Decrease in Unknown lines and increase in Unknown Not Lead lines?	Equal decrease in Unknown lines and increase in Unknown Not Lead lines?
Ilur Woods Edge MHP LLC (PWS)	179	100.0	Yes	Yes
Ilur Portfolio 5 - Surbana Estates MHP (PWS)	97	56.7	Yes	No
Woodland Acres MHC	95	12.6	Yes	No
Ilur Portfolio 5 - Wilson MHP (PWS)	32	100.0	Yes	Yes
<b>Christian</b>				
Pana (PWS)	2580	11.0	Yes	No
Morrisonville (PWS)	486	14.0	Yes	No
<b>Clay</b>				
Louisville (PWS)	610	1.5	Yes	No
<b>Clinton</b>				
Breese (PWS)	2215	0.2	Yes	No
Bartelso (PWS)	245	4.1	Yes	No
<b>Coles</b>				
Mattoon-PWS	7927	0.7	Yes	No
Embarras Area Water District (PWS)	1510	1.3	Yes	No
Ashmore (PWS)	365	44.4	Yes	Yes
Longacre Estates MHP (PWS)	123	71.5	Yes	No
<b>Cook</b>				
Mount Prospect (PWS)	11140	0.2	Yes	No
Lemont (PWS)	6269	34.1	Yes	Yes
Bellwood (PWS)	6237	0.6	Yes	Yes
Riverdale (PWS)	3311	77.2	Yes	No
Lyons (PWS)	2697	0.9	Yes	Yes
Glenbrook Sanitary District (PWS)	342	3.5	Yes	Yes
Hodgkins (PWS)	258	40.7	Yes	Yes
Oak Lane Mobile Home Park (PWS)	217	100.0	Yes	Yes
Northwest Suburban Municipal Jawa (PWS)	21	100.0	Yes	Yes
<b>Crawford</b>				
Hutsonville (PWS)	288	49.7	Yes	Yes
<b>DuPage</b>				
Carol Stream (PWS)	11123	5.8	Yes	No
York Township Water System (PWS)	466	0.6	Yes	No
<b>Edgar</b>				
Brocton (PWS)	139	51.8	Yes	Yes
<b>Fayette</b>				
St Elmo (PWS)	742	18.1	Yes	No
<b>Ford</b>				
Gibson City (PWS)	1680	40.4	Yes	No
Sibley (PWS)	170	94.1	Yes	Yes
<b>Franklin</b>				
Christopher (PWS)	1272	3.5	Yes	No
Greenwood-Creek Nation Water Company (PWS)	987	43.8	Yes	No
Hill City Water District (PWS)	203	11.3	Yes	No
Plumfield Water District (PWS)	202	85.1	Yes	Yes
Orient (PWS)	163	4.3	Yes	Yes
<b>Fulton</b>				
Lewistown (PWS)	1095	23.2	Yes	No
<b>Gallatin</b>				
Shawneetown (PWS)	480	26.7	Yes	No
<b>Grundy</b>				
Burt Estates MHC (PWS)	150	100.0	Yes	Yes
<b>Hamilton</b>				
Broughton (PWS)	101	68.3	Yes	No
<b>Hardin</b>				
Cave-In-Rock (PWS)	119	5.0	Yes	No
<b>Henry</b>				
Woodhull (PWS)	402	25.4	Yes	No
Lynn Water Association, Inc (PWS)	42	76.2	Yes	Yes
<b>Iroquois</b>				

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Utility Name	Total Service Lines (2019)	Change in percentage of total lines that are Unknown Not Lead	Decrease in Unknown lines and increase in Unknown Not Lead lines?	Equal decrease in Unknown lines and increase in Unknown Not Lead lines?
Clifton (PWS)	572	34.4	Yes	Yes
Ashkum (PWS)	343	13.4	Yes	No
Thawville (PWS)	100	40.0	Yes	Yes
<b>Jackson</b>				
Dowell (PWS)	434	74.7	Yes	No
<b>Johnson</b>				
Burnside PWD (PWS)	1132	73.5	Yes	No
<b>Kane</b>				
Willow Lake Estates MHP (PWS)	630	100.0	Yes	Yes
Highland Subdivision (PWS)	20	100.0	Yes	No
<b>Kankakee</b>				
Aqua Illinois-Kankakee (PWS)	31867	11.2	Yes	No
Skyview Subdivision (PWS)	28	100.0	Yes	Yes
<b>Kendall</b>				
Oswego (PWS)	11386	4.8	Yes	No
<b>Lake</b>				
Zion (PWS)	7089	100.0	Yes	No
Lake Villa (PWS)	2591	20.2	Yes	No
<b>LaSalle</b>				
Grand Ridge (PWS)	240	8.3	Yes	Yes
Country Acres MHP (PWS)	150	100.0	Yes	No
Illinois American - Leonore (PWS)	79	22.8	Yes	Yes
<b>Lawrence</b>				
Bridgeport (PWS)	1057	68.0	Yes	No
Sumner (PWS)	530	22.6	Yes	Yes
St Francisville (PWS)	288	38.2	Yes	No
<b>Lee</b>				
West Brooklyn (PWS)	72	100.0	Yes	Yes
<b>Livingston</b>				
Illinois American - Pontiac (PWS)	4730	5.3	Yes	No
<b>Logan</b>				
Illinois American - Lincoln (PWS)	6054	96.3	Yes	No
<b>Macoupin</b>				
Virden (PWS)	1709	32.4	Yes	No
<b>Madison</b>				
Illinois American - Alton (PWS)	22388	91.9	Yes	No
Illinois American - Granite City (PWS)	16200	79.5	Yes	No
Glen Carbon (PWS)	5375	12.6	Yes	Yes
Pontoon Beach PWD (PWS)	1585	3.1	Yes	No
Grantfork (PWS)	716	94.8	Yes	No
Marine (PWS)	487	43.7	Yes	No
<b>Marshall</b>				
Hopewell (PWS)	135	14.8	Yes	Yes
<b>Massac</b>				
Brookport (PWS)	391	85.9	Yes	No
Joppa (PWS)	186	94.6	Yes	No
<b>McDonough</b>				
Colchester (PWS)	778	69.9	Yes	No
<b>McLean</b>				
Gridley (PWS)	634	79.2	Yes	No
Meadows Of Bloomington MHP (PWS)	241	100.0	Yes	Yes
Bellflower (PWS)	180	80.6	Yes	No
BLM GW MHP, LLC (PWS)	152	57.9	Yes	No
<b>Mercer</b>				
Aledo (PWS)	1835	39.4	Yes	Yes
New Boston (PWS)	294	4.8	Yes	No
Keithsburg (PWS)	270	14.8	Yes	No
North Henderson (PWS)	83	15.7	Yes	Yes

(continued)

Utility Name	Total Service Lines (2019)	Change in percentage of total lines that are Unknown Not Lead	Decrease in Unknown lines and increase in Unknown Not Lead lines?	Equal decrease in Unknown lines and increase in Unknown Not Lead lines?
<b>Monroe</b>				
Waterloo (PWS)	4665	33.7	Yes	Yes
Columbia (PWS)	4024	86.2	Yes	No
<b>Morgan</b>				
SMG Water Coop (PWS)	1145	3.3	Yes	No
North Morgan Water Coop (PWS)	952	3.5	Yes	No
Murrayville-Woodson Water Commission (PWS)	537	9.5	Yes	No
<b>Peoria</b>				
Illinois American - Peoria (PWS)	62494	35.7	Yes	No
<b>Pike</b>				
Nebo (PWS)	148	33.8	Yes	No
<b>Randolph</b>				
Coulterville (PWS)	507	10.3	Yes	No
<b>Richland</b>				
Claremont (PWS)	79	8.9	Yes	No
<b>Rock Island</b>				
High Cliff Estates (PWS)	224	100.0	Yes	Yes
Mississippi Manufactured Home Community (PWS)	220	100.0	Yes	Yes
Ridgewood Ledges Water Association (PWS)	127	98.4	Yes	No
Eberts 3rd Addition (PWS)	33	100.0	Yes	Yes
Chigakwa Park Estates (PWS)	18	100.0	Yes	Yes
<b>Saline</b>				
Carrier Mills (PWS)	883	11.6	Yes	No
Mitchellsville PWD (PWS)	764	73.8	Yes	No
Prospect Water District (PWS)	500	58.0	Yes	No
Liberty-Ledford PWD (PWS)	500	46.6	Yes	No
Stonefort (PWS)	128	7.8	Yes	Yes
<b>Sangamon</b>				
Springfield (PWS)	54996	5.4	Yes	No
Riverton (PWS)	1860	100.0	Yes	Yes
<b>St. Clair</b>				
Illinois American - East St Louis (PWS)	54013	74.6	Yes	No
Commonfields Of Cahokia PWD (PWS)	4081	3.8	Yes	No
Marissa (PWS)	844	44.9	Yes	Yes
Lenzburg (PWS)	281	0.4	Yes	Yes
Fayetteville (PWS)	141	0.7	Yes	Yes
<b>Stephenson</b>				
Winslow (PWS)	150	71.9	Yes	No
Stephenson Mobile Estates (PWS)	90	100.0	Yes	Yes
<b>Tazewell</b>				
Illinois American - Washington Estates (PWS)	484	97.5	Yes	No
Oak Lawn Estates	470	100.0	Yes	Yes
Deer Creek (PWS)	307	87.3	Yes	Yes
Harvard Hills Water Corporation (PWS)	86	1.2	Yes	No
Hollands Grove Court Subdivision (PWS)	17	100.0	Yes	Yes
<b>Vermilion</b>				
Allerton (PWS)	130	95.4	Yes	No
<b>Wabash</b>				
Rural Wabash County Water District (PWS)	739	52.6	Yes	No
Bellmont (PWS)	131	35.1	Yes	No
<b>Wayne</b>				
Cisne (PWS)	350	46.9	Yes	No
Jeffersonville (Geff) (PWS)	160	20.0	Yes	No
<b>White</b>				
Norris City (PWS)	961	64.3	Yes	No
<b>Whiteside</b>				
Illinois American - Sterling (PWS)	7314	82.8	Yes	No
<b>Will</b>				
Lockport (PWS)	8691	0.0	Yes	No

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Utility Name	Total Service Lines (2019)	Change in percentage of total lines that are Unknown Not Lead	Decrease in Unknown lines and increase in Unknown Not Lead lines?	Equal decrease in Unknown lines and increase in Unknown Not Lead lines?
Imperial MHC (PWS)	100	100.0	Yes	Yes
<b>Williamson</b>				
Coal Valley PWD (PWS)	1547	97.2	Yes	No
Ferges Water District (PWS)	461	42.5	Yes	No
Blairsville PWD (PWS)	320	3.1	Yes	No
<b>Winnebago</b>				
Pecatonica (PWS)	942	0.7	Yes	No
Bradley Heights Subdivision (PWS)	52	100.0	Yes	Yes
<b>Woodford</b>				
Washburn (PWS)	511	32.5	Yes	Yes
Goodfield (PWS)	417	76.3	Yes	Yes