

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 UnknownMaterial service lines and a simultaneous increase in UnknownNotLead service lines. Outlined below are these trends and a table of the flagged utilities. These results suggest that, for the purposes of outreach and policy-making, the 2018 dataset may be more reliable until we have a better understanding of the inventory procedure for each flagged utility.

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 increased: UnknownNotLead and Plastic. Finally, there has been a decrease in the reported number of UnknownMaterial lines. Given that the total number of service lines has, on average, remained constant, these results suggest that utilities may be reclassifying the UnknownMaterial lines for the 2019 reporting year.

Table 1: Service Line Changes (2018 - 2019)

The average number of lines reported for each service line category was compared from 2018 to 2019 using two-tailed paired t-tests ($\alpha = 0.05$). There was a significant change in UnknownNotLead and Plastic lines, with number of lines reported as higher in 2019 than 2018. There was also a significant change in UnknownMaterial lines, with numbers of lines reported as lower in 2019 than 2018.

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 IEPA across both years, 142 (8.2%) reported a decrease in UnknownMaterial lines and an increase in UnknownNotLead lines.
- Across the 142 flagged utilities, the median percent of reclassification from UnknownMaterial lines to UnknownNotLead lines was 100%.
- 58 of those utilities (3.3% of the total) reported exactly the same decrease in number of UnknownMaterial lines and increase in number of UnknownNotLead lines. This suggests that some utilities may be reclassifying all of their UnknownMaterial lines as UnknownNotLead.
- 24 of the flagged utilities classified all of their service lines as UnknownNotLead in 2019. In 2018, however, none of the flagged utilities had classified all of their lines as UnknownNotLead. Given this suspicious shift, the potential consequences of lead service lines in the communities served by these utilities may be very high if policy is to be informed by 2019 data.
- The flagged utilities spanned 63 out of the 102 counties of Illinois (61.8%). Using the 2019 data may thus have widespread impacts for communities across the entire state.

Table 2: Flagged Water Utilities

142 of 1742 utilities were flagged for reporting decreases in UnknownMaterial lines and increases in UnknownNotLead lines between 2018 and 2019. The flagged utilities are outlined below with the percent of UnknownMaterial lines that were reclassified to UnknownNotLead the following year. (* Utilities for which reclassification was over 100% due to either an increase in total lines or an additional reclassification from other categories.)

County	Utility Name	Total Service Lines (2018)	Total Service Lines (2019)	Percent of Lines Designated Unknown-NotLead (2018)	Percent of Lines Designated Unknown-NotLead (2019)	Percent of Lines Reclassified from Unknown-Material to Unknown-NotLead
Alexander	Illinois American - Cairo (PWS)	1227	2635	0%	100%	225% *
Kane	Highland Subdivision (PWS)	20	20	0%	100%	182% *
LaSalle	Country Acres MHP (PWS)	100	150	0%	100%	150% *
Whiteside	Illinois American - Sterling (PWS)	6507	7314	17%	100%	115% *
Lake	Zion (PWS)	7073	7089	0%	100%	100%
Sangamon	Riverton (PWS)	1860	1860	0%	100%	100%
Kane	Willow Lake Estates MHP (PWS)	630	630	0%	100%	100%
Tazewell	Oak Lawn Estates	470	470	0%	100%	100%
McLean	Meadows Of Bloomington MHP (PWS)	241	241	0%	100%	100%
Rock Island	High Cliff Estates (PWS)	224	224	0%	100%	100%
Rock Island	Mississippi Manufactured Home Community (PWS)	220	220	0%	100%	100%
Cook	Oak Lane Mobile Home Park (PWS)	217	217	0%	100%	100%
Champaign	Ilur Woods Edge MHP LLC (PWS)	179	179	0%	100%	100%
Grundy	Burt Estates MHC (PWS)	150	150	0%	100%	100%
Will	Imperial MHC (PWS)	100	100	0%	100%	100%
Stephenson	Stephenson Mobile Estates (PWS)	90	90	0%	100%	100%
Lee	West Brooklyn (PWS)	72	72	0%	100%	100%
Winnebago	Bradley Heights Subdivision (PWS)	52	52	0%	100%	100%
Rock Island	Eberts 3rd Addition (PWS)	33	33	0%	100%	100%
Champaign	Ilur Portfolio 5 - Wilson MHP (PWS)	32	32	0%	100%	100%
Kankakee	Skyview Subdivision (PWS)	28	28	0%	100%	100%
Cook	Northwest Suburban Municipal Jawa (PWS)	21	21	0%	100%	100%
Rock Island	Chigakwa Park Estates (PWS)	18	18	0%	100%	100%
Tazewell	Hollands Grove Court Subdivision (PWS)	17	17	0%	100%	100%
Tazewell	Illinois American - Washington Estates (PWS)	484	484	0%	98%	100%

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County	Utility Name	Total Service Lines (2018)	Total Service Lines (2019)	Percent of Lines Designated Unknown- NotLead (2018)	Percent of Lines Designated Unknown- NotLead (2019)	Percent of Lines Re- classified from Unknown- Material to Unknown- NotLead
Rock Island	Ridgewood Ledges Water Association (PWS)	127	127	0%	98%	99%
Stephenson	Winslow (PWS)	149	150	25%	97%	292% *
Williamson	Coal Valley PWD (PWS)	1500	1547	0%	97%	102% *
Logan	Illinois American - Lincoln (PWS)	6054	6054	0%	96%	98%
Champaign	Illinois American - Champaign (PWS)	55406	55684	0%	95%	99%
Madison	Grantfork (PWS)	716	716	0%	95%	95%
Vermilion	Allerton (PWS)	130	130	0%	95%	95%
Massac	Joppa (PWS)	200	186	0%	95%	93%
Ford	Sibley (PWS)	170	170	0%	94%	100%
Madison	Illinois American - Alton (PWS)	25319	22388	0%	92%	169% *
Tazewell	Deer Creek (PWS)	307	307	0%	87%	100%
Monroe	Columbia (PWS)	4122	4024	0%	86%	95%
Massac	Brookport (PWS)	395	391	0%	86%	91%
Franklin	Plumfield Water District (PWS)	200	202	0%	85%	100%
Champaign	Heritage Estates Mhp (PWS)	221	221	0%	81%	81%
McLean	Bellflower (PWS)	180	180	0%	81%	81%
McLean	Gridley (PWS)	637	634	0%	79%	99%
Madison	Illinois American - Granite City (PWS)	15753	16200	0%	79%	88%
Sangamon	Springfield (PWS)	54843	54996	73%	78%	92%
Cook	Riverdale (PWS)	3311	3311	0%	77%	100%
Woodford	Goodfield (PWS)	413	417	0%	76%	100%
Henry	Lynn Water Association, Inc (PWS)	42	42	0%	76%	100%
St. Clair	Illinois American - East St Louis (PWS)	51498	54013	0%	75%	94%
Jackson	Dowell (PWS)	498	434	0%	75%	83%
Saline	Mitchellsville PWD (PWS)	766	764	0%	74%	100%
Johnson	Burnside PWD (PWS)	1117	1132	0%	73%	99%
Coles	Longacre Estates MHP (PWS)	123	123	0%	72%	72%
McDonough	Colchester (PWS)	777	778	0%	70%	91%
Hamilton	Broughton (PWS)	101	101	0%	68%	84%
Lawrence	Bridgeport (PWS)	1243	1057	0%	68%	79%
Champaign	Ilur Liberty Commons MHP (PWS)	440	440	0%	68%	68%
White	Norris City (PWS)	972	961	0%	64%	77%
Bureau	Bureau Junction (PWS)	122	122	0%	63%	100%
Saline	Prospect Water District (PWS)	500	500	0%	58%	98%
McLean	BLM GW MHP, LLC (PWS)	152	152	0%	58%	82%
Champaign	Homer (PWS)	512	514	0%	57%	76%
Champaign	Ilur Portfolio 5 - Surbana Estates MHP (PWS)	97	97	0%	57%	57%
Wabash	Rural Wabash County Water District (PWS)	738	739	0%	53%	97%
Clinton	Breese (PWS)	2206	2215	51%	52%	550% *
Edgar	Brocton (PWS)	139	139	0%	52%	100%
Crawford	Hutsonville (PWS)	288	288	0%	50%	100%
Wayne	Cisne (PWS)	328	350	0%	47%	109% *
Saline	Liberty-Ledford PWD (PWS)	501	500	0%	47%	100%
Fulton	Lewistown (PWS)	1148	1095	22%	46%	82%
St. Clair	Marissa (PWS)	844	844	0%	45%	100%
Coles	Ashmore (PWS)	365	365	0%	44%	100%
Franklin	Greenwood-Creek Nation Water Company (PWS)	984	987	0%	44%	97%
Madison	Marine (PWS)	482	487	0%	44%	84%
Williamson	Ferges Water District (PWS)	457	461	0%	43%	99%
Cook	Hodgkins (PWS)	258	258	0%	41%	100%
Iroquois	Thawville (PWS)	100	100	0%	40%	100%
Ford	Gibson City (PWS)	1605	1680	0%	40%	85%
Mercer	Aledo (PWS)	1835	1835	0%	39%	100%
Lawrence	St Francisville (PWS)	334	288	0%	38%	71%
Peoria	Illinois American - Peoria (PWS)	63020	62494	0%	36%	77%
Wabash	Bellmont (PWS)	135	131	0%	35%	84%
Cook	Lemont (PWS)	6214	6269	0%	34%	100%
Monroe	Waterloo (PWS)	4621	4665	0%	34%	100%
Iroquois	Clifton (PWS)	572	572	0%	34%	100%
Pike	Nebo (PWS)	148	148	0%	34%	57%
Woodford	Washburn (PWS)	511	511	0%	32%	100%
Champaign	Gifford (PWS)	381	381	0%	32%	96%

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Macoupin	Virden (PWS)	1726	1709	0%	32%	32%
Christian	Pana (PWS)	2565	2580	17%	28%	81%
Gallatin	Shawneetown (PWS)	480	480	0%	27%	98%
Henry	Woodhull (PWS)	404	402	0%	25%	98%
Champaign	Tolono (PWS)	1304	1306	0%	23%	100%
Lawrence	Sumner (PWS)	530	530	0%	23%	100%
LaSalle	Illinois American - Leonore (PWS)	79	79	0%	23%	100%
Lake	Lake Villa (PWS)	2577	2591	0%	20%	98%
Wayne	Jeffersonville (Geff) (PWS)	179	160	0%	20%	63%
Livingston	Illinois American - Pontiac (PWS)	4530	4730	14%	19%	167% *
Fayette	St Elmo (PWS)	746	742	0%	18%	85%
Cass	Chandlerville (PWS)	282	282	0%	17%	100%
Mercer	North Henderson (PWS)	83	83	0%	16%	100%
Bureau	Arlington (PWS)	68	68	0%	16%	100%
Mercer	Keithsburg (PWS)	270	270	0%	15%	400% *
Marshall	Hopewell (PWS)	135	135	0%	15%	100%
Christian	Morrisonville (PWS)	488	486	0%	14%	126% *
Madison	Glen Carbon (PWS)	5320	5375	0%	13%	100%
Iroquois	Ashkum (PWS)	343	343	0%	13%	96%
Champaign	Woodland Acres MHC	95	95	0%	13%	13%
Bond	Mulberry Grove (PWS)	318	318	0%	12%	100%
Saline	Carrier Mills (PWS)	987	883	0%	12%	99%
Franklin	Hill City Water District (PWS)	178	203	0%	11%	288% *
Kankakee	Aqua Illinois-Kankakee (PWS)	34345	31867	0%	11%	36%
Randolph	Coulterville (PWS)	507	507	0%	10%	2600% *
Morgan	Murrayville-Woodson Water Commission (PWS)	537	537	0%	9%	89%
Richland	Claremont (PWS)	74	79	0%	9%	58%
LaSalle	Grand Ridge (PWS)	240	240	0%	8%	100%
Saline	Stonefort (PWS)	123	128	0%	8%	100%
Brown	Mount Sterling (PWS)	1216	1227	0%	6%	88%
DuPage	Carol Stream (PWS)	11104	11123	0%	6%	53%
Coles	Mattoon-PWS	7927	7927	6%	6%	11%
Mercer	New Boston (PWS)	294	294	0%	5%	700% *
Kendall	Oswego (PWS)	11342	11386	0%	5%	48%
Hardin	Cave-In-Rock (PWS)	170	119	0%	5%	4%
Cook	Glenbrook Sanitary District (PWS)	342	342	0%	4%	100%
Franklin	Orient (PWS)	163	163	0%	4%	100%
St. Clair	Commonfields Of Cahokia PWD (PWS)	4303	4081	0%	4%	91%
Clinton	Bartelso (PWS)	235	245	0%	4%	12%
Franklin	Christopher (PWS)	1411	1272	0%	4%	11%
Morgan	SMG Water Coop (PWS)	1043	1145	0%	3%	95%
Morgan	North Morgan Water Coop (PWS)	943	952	0%	3%	92%
Madison	Pontoon Beach PWD (PWS)	1580	1585	0%	3%	64%
Williamson	Blairsville PWD (PWS)	332	320	0%	3%	3%
Cook	Bellwood (PWS)	6234	6237	0%	1%	100%
Cook	Lyons (PWS)	2704	2697	0%	1%	100%
St. Clair	Fayetteville (PWS)	139	141	0%	1%	100%
Clay	Louisville (PWS)	610	610	0%	1%	90%
Coles	Embarras Area Water District (PWS)	1484	1510	0%	1%	57%
DuPage	York Township Water System (PWS)	452	466	0%	1%	43%
Tazewell	Harvard Hills Water Corporation (PWS)	86	86	0%	1%	25%
Winnebago	Pecatonica (PWS)	942	942	0%	1%	6%
St. Clair	Lenzburg (PWS)	281	281	0%	0%	100%
Will	Lockport (PWS)	8616	8691	0%	0%	50%
Cook	Mount Prospect (PWS)	11140	11140	0%	0%	1%