RCAP

THE

Rural Community Assistance Partnership

Improving rural quality of life, starting at the tap

Goals for today

RCAP Background & Impact

Orient RD staff on RCAP's programs for small drinking water systems

Examples RCAP's work with systems dealing with lead issues

National Network

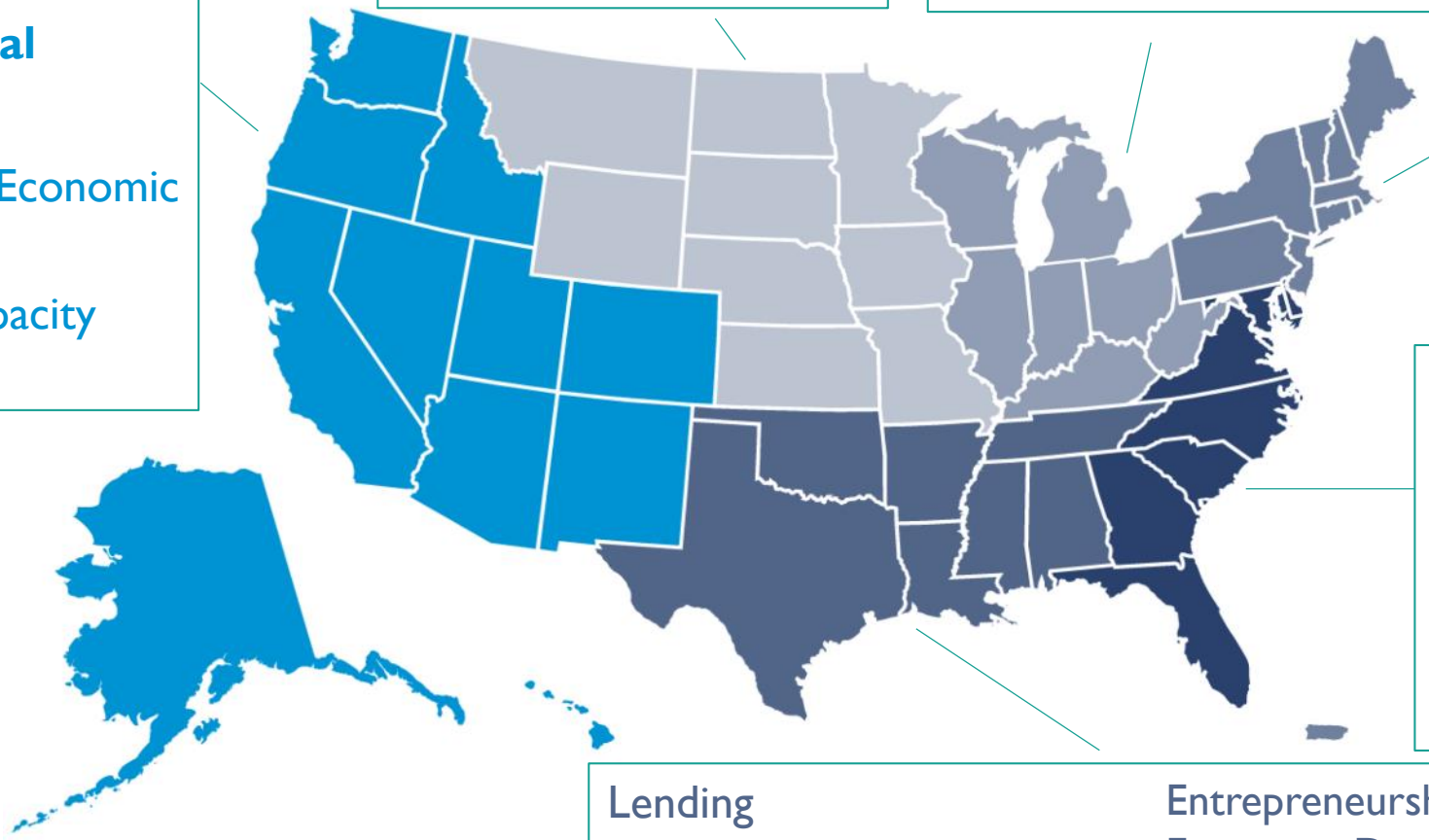
Services by Region

Lending
Environmental
Housing
Community & Economic Development
Leadership/Capacity Building

Environmental
Leadership/Capacity Building/Economic Development

Lending
Environmental
Housing
Community & Economic Dev.
Leadership/Capacity Building

Environmental
Housing/rental assistance
Leadership/Capacity Building



Environmental
Housing
Community Development & lending
Leadership/Capacity Building

Lending
Environmental
Technical Support

Entrepreneurship & Economic Development
Leadership/Capacity Building

RCAP Impact

Some stats driving our work

93.5% of public water systems are serving communities with 3,300 people or fewer.

$74.4 Billion is the U.S. EPA -estimated amount small community water systems need to maintain and update infrastructure. *This need is estimated for systems serving 23.4 million people.

3.68 jobs are added to the national economy to support each job added in the water and wastewater sector

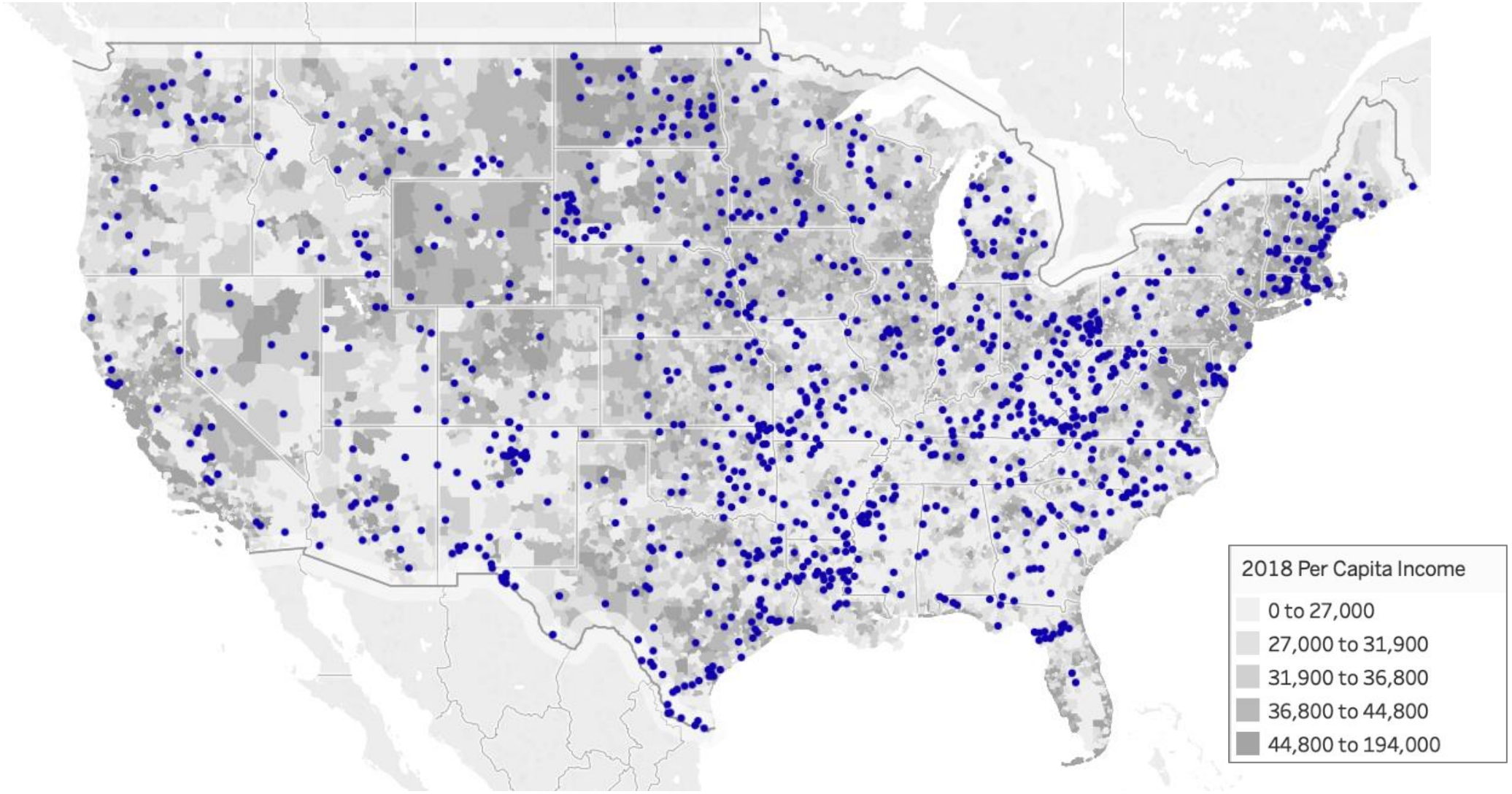
10-20: Jobs are added in the U.S. for each $1 million invested in water supply and treatment infrastructure

RCAP Impact

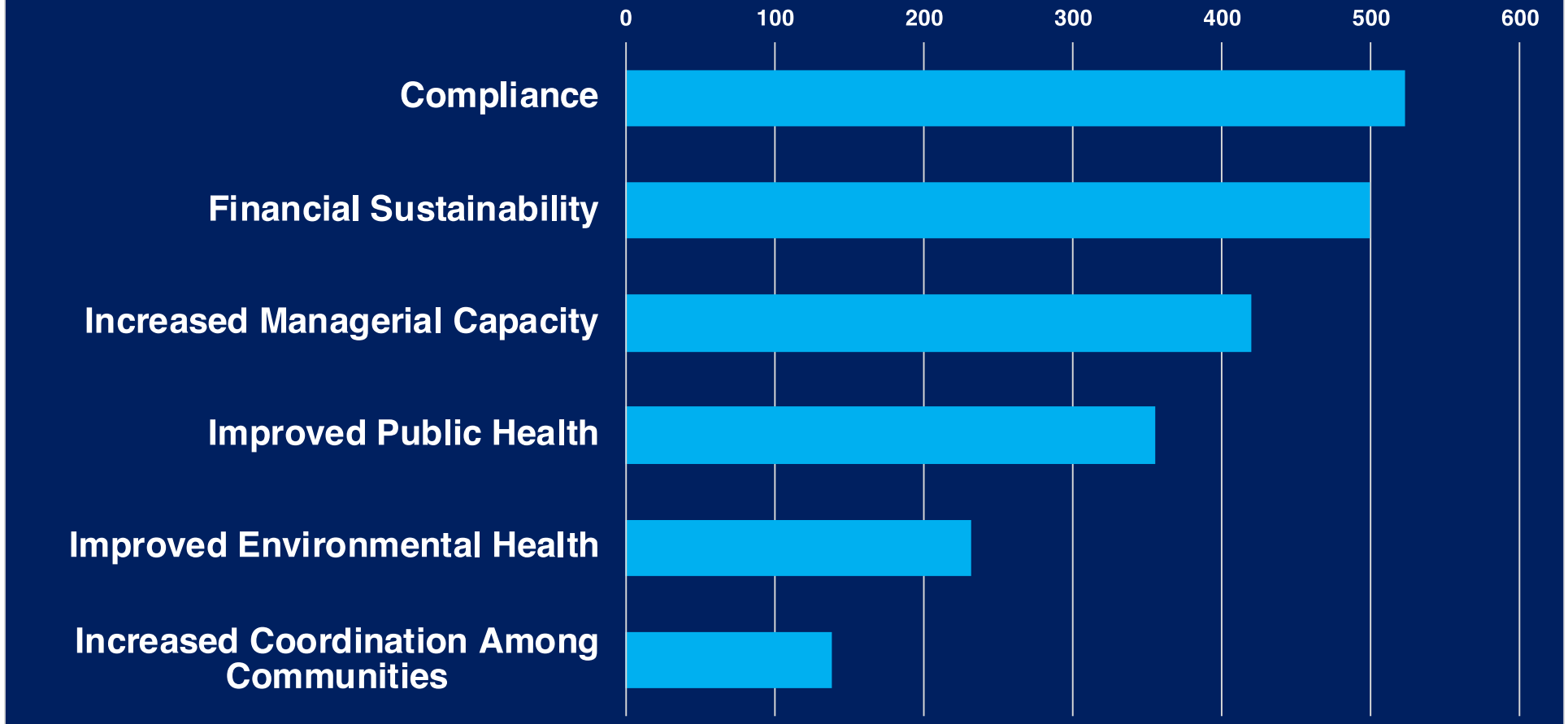
In Fiscal Year 2018, the RCAP Network – through nationally funded projects – served approximately:

2.5 million:	**rural residents**
538,000:	**residents living in poverty**
639,880:	**residents identifying as people of color**
1+ million:	**households**
1,457:	**communities**

TA Mapped with Per Capita Income (2018)



The Most Projects Aim to Assist Communities with Achieving Compliance with State and Federal Regulations and Financial Sustainability



Leveraged Funds

In FY18, RCAP helped 71 communities in 28 states leverage approximately $145.5M in additional funding

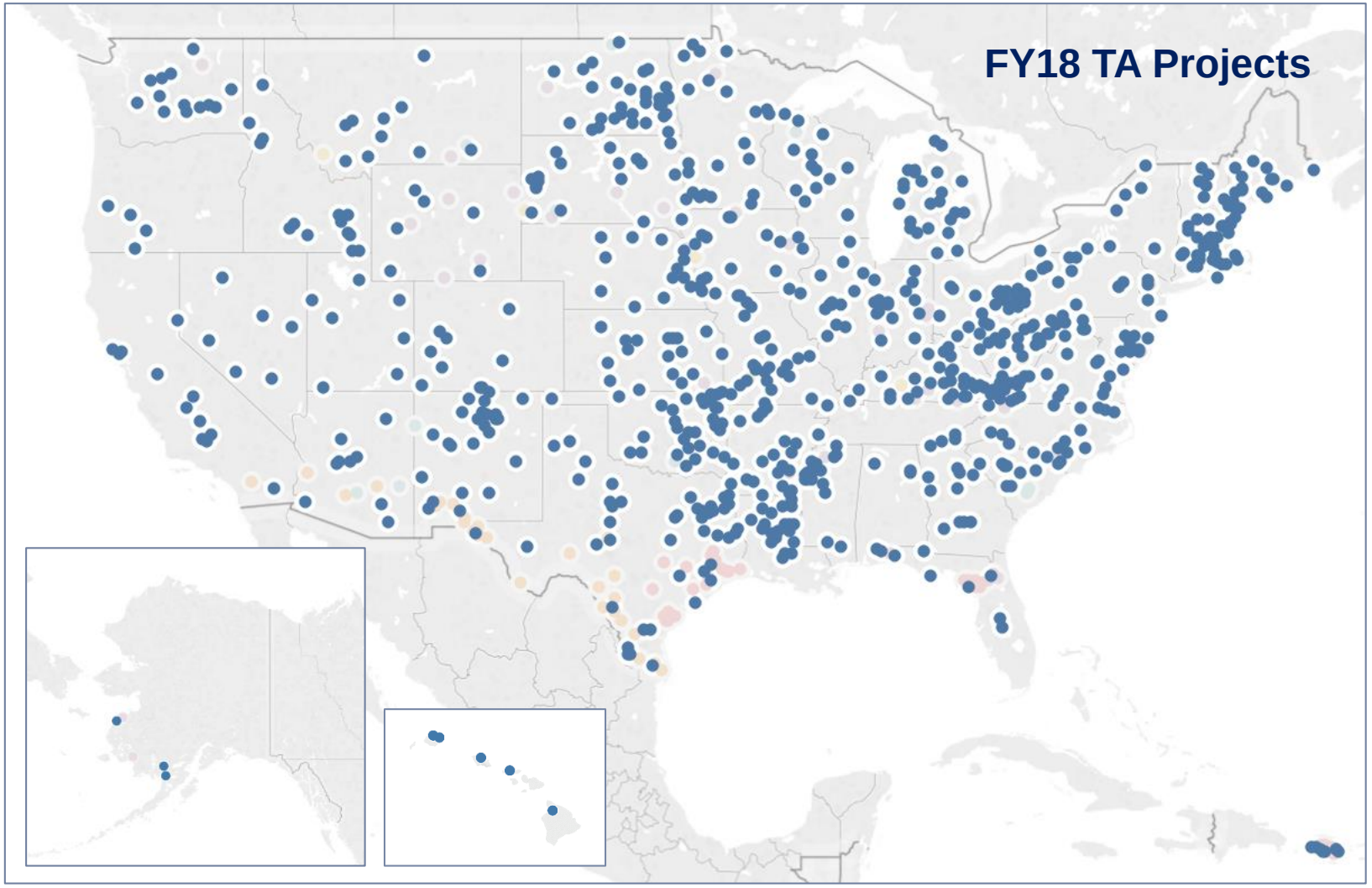
98% of this total was achieved under USDA-funded TA

- 68% was awarded in the form of loans

Sources of leveraged funds: USDA, CDBG, States and SRFs, Regional

Overview of RCAP Programs for Small Systems

Technitrain



Goals for 2019-20:

- Assist at least 780 systems includes tribes
- Present 150 training sessions to at least 1000 system board members and personnel
- Assist in completing 72 vulnerability assessments and 72 emergency response plans

GIS Component

GIS Goals for 2019-20:

Assist **42 communities** in the mapping of a water or wastewater system—or both — for communities eligible for USDA's

Each community will have a working map of their system in the ESRI ArcGIS Online multi-tenant environment under this program

Training of one or more operators, community members, or utility staff such that they have the capacity to sustain the map of their system

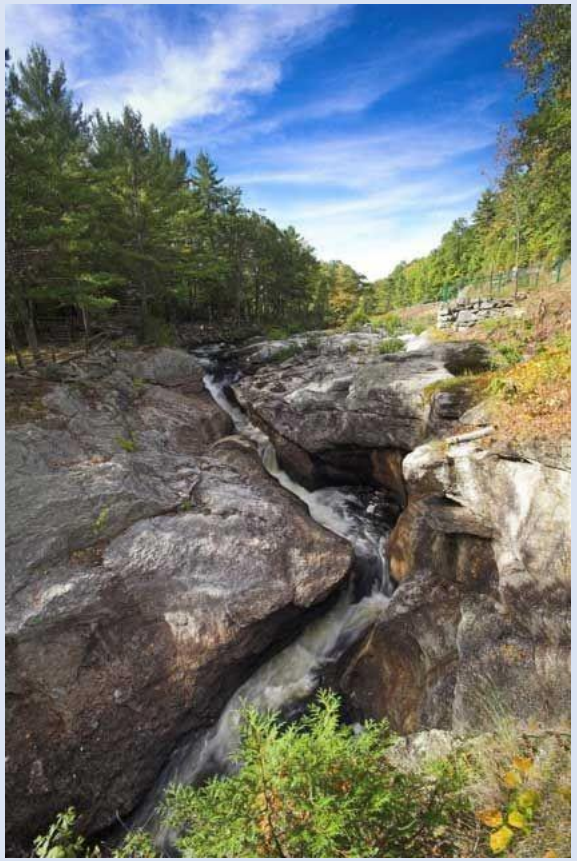
Technitrain

Goals for 2019-20:

Systems determined to be financially unsustainable will **achieve sustainability**

Systems out of compliance with the SDWA or CWA will **be brought into compliance**

Systems will **secure at least $80 million in federal, state, and other funding—for new systems, system replacement, and other facilities improvements**



The **South Berwick (Maine)** Water District had old, outdated infrastructure and was in need of asset management planning to help them prioritize and set aside funds for needed system upgrades.

Through USDA Technical Assistance and Training funds, RCAP helped the district develop an Asset Management Plan as well as a Capital Improvement Plan to prioritize projects and set aside funding reserves over time to make the system more financially sustainable as well as avoid rate shock and unaffordability for system customers.

RCAP Drinking Water Compliance

- **Purpose:** On-site technical assistance and training with a focus on compliance/health concerns in drinking water systems (serving 10,000 or fewer people)

- 318 on-site technical assistance projects in all 50 states

- 270 customized trainings in all 50 states

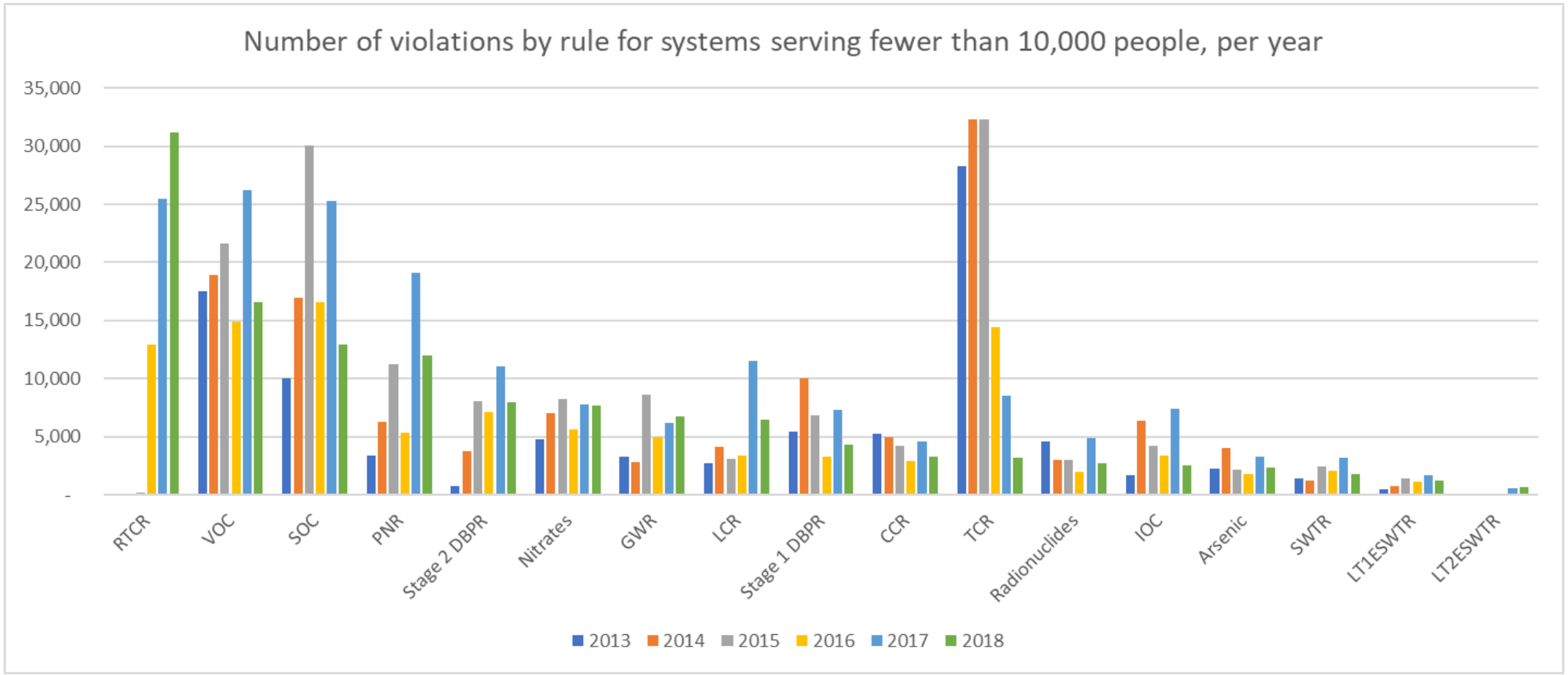
Assistance Types

- **Compliance and Environmental Health**
- **Operations and Maintenance**

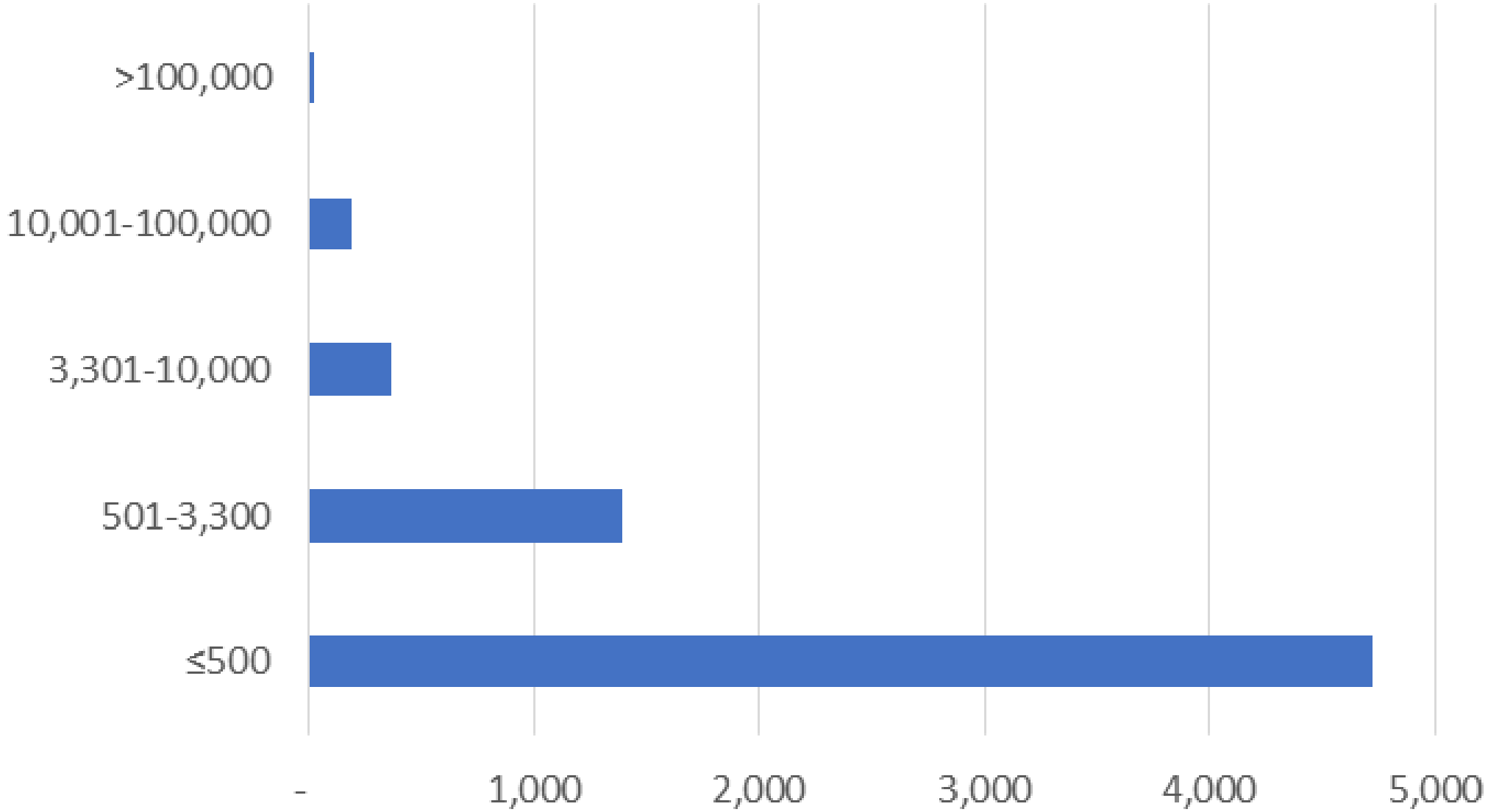
Examples of RCAP's Work on Lead

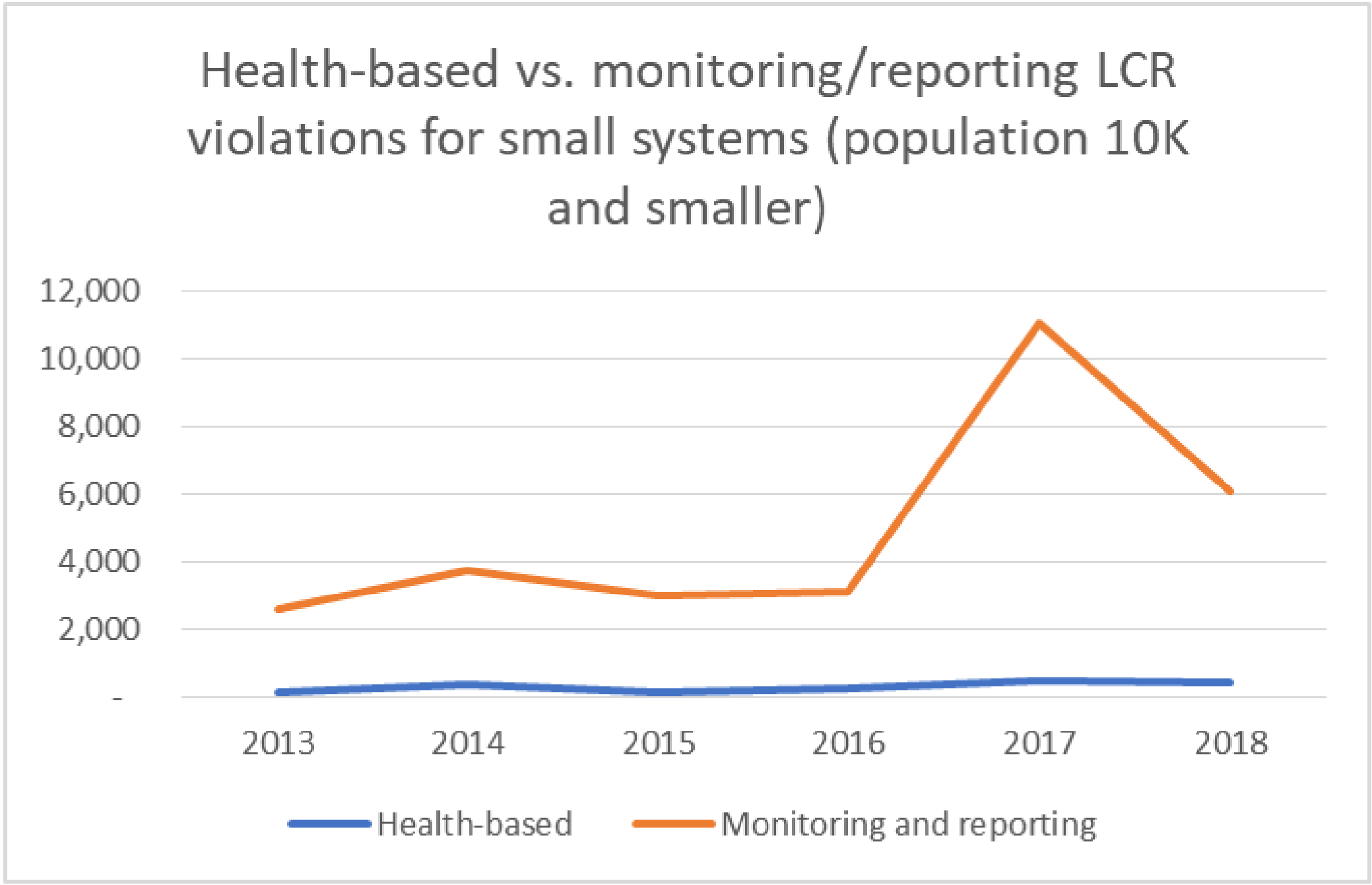
RCAP's services related to lead

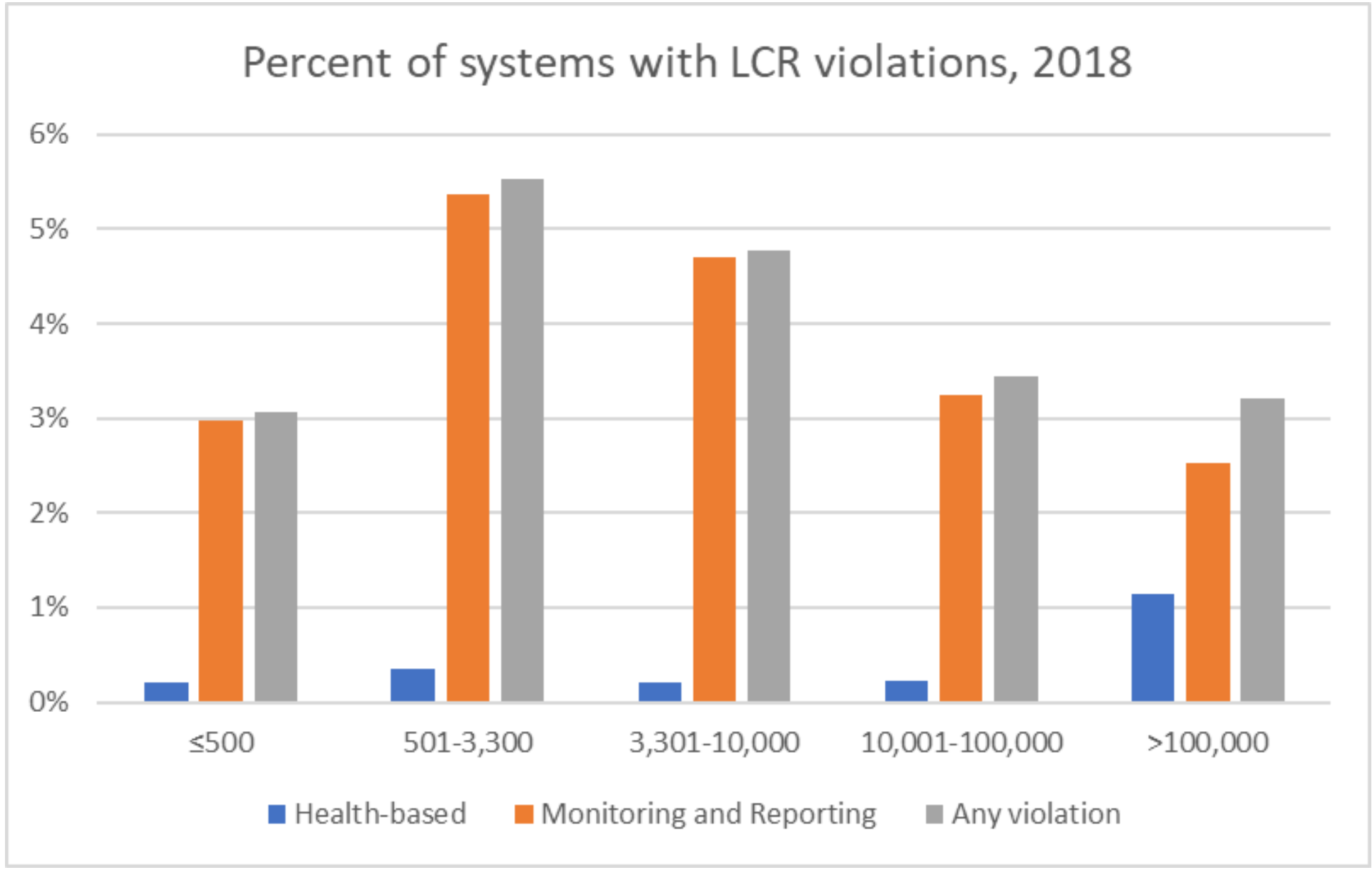
- Understanding lead issues
- Training
- Technical assistance
  - Lead monitoring plans
  - Inventories


Number of violations by rule for systems serving fewer than 10,000 people, per year
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
RTCR
VOC
SOC
PNR
Stage 2 DBPR
Nitrates
GWR
LCR
Stage 1 DBPR
CCR
TCR
Radionuclides
IOC
Arsenic
SWTR
LT1ESWTR
LT2ESWTR
2013
2014
2015
2016
2017
2018

Total LCR violations in 2018 by PWS size

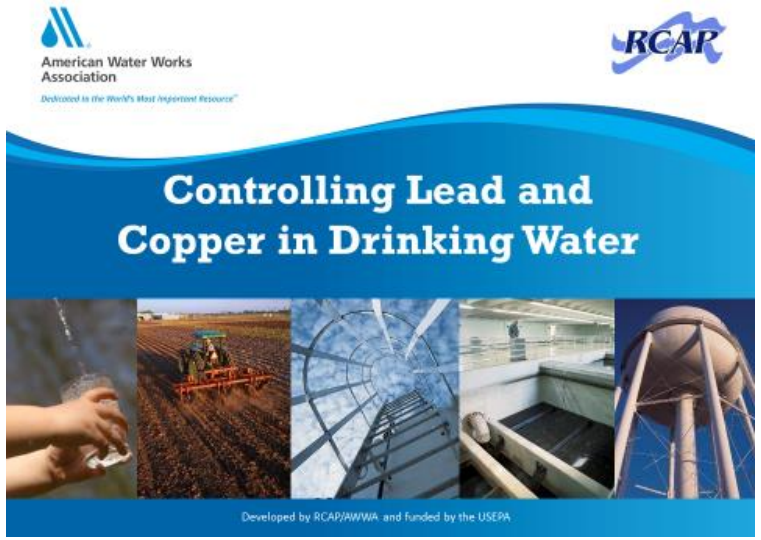



Health-based vs. monitoring/reporting LCR violations for small systems (population 10K and smaller)
12,000
10,000
8,000
6,000
4,000
2,000
-
2013
2014
2015
2016
2017
2018
Health-based
Monitoring and reporting


Percent of systems with LCR violations, 2018
6%
5%
4%
3%
2%
1%
0%
≤500
501-3,300
3,301-10,000
10,001-100,000
>100,000
Health-based
Monitoring and Reporting
Any violation

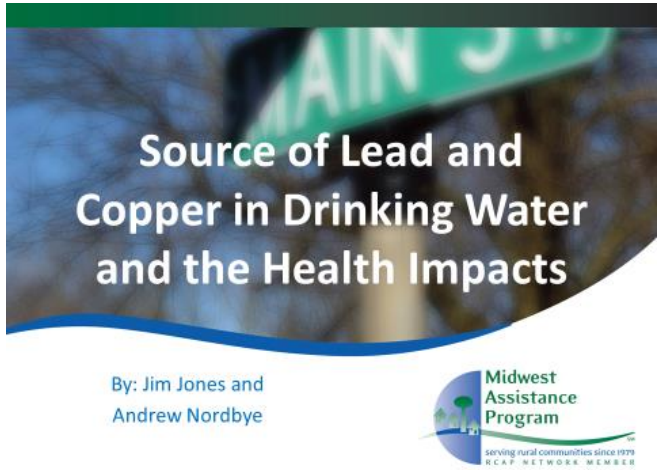
Training

- RCAP/AWWA compliance training curriculum
- Lead and Copper Rule E-learning (2020)



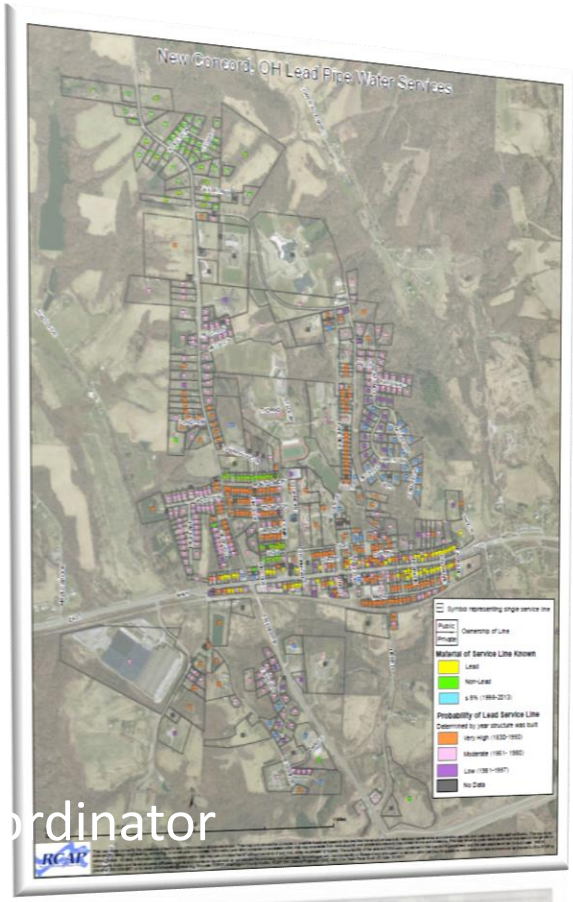
Training

- RCAP/AWWA compliance training curriculum
- Lead and Copper Rule E-learning (2020)
- Midwest Assistance Project (MAP) Region 8 training



Ohio RCAP - Mapping Lead Service Line Probability in Small Water Systems

Source: Brain Beyeler, Great Lakes RCAP



ordinator

Ohio EPA Lead (Pb) Rules

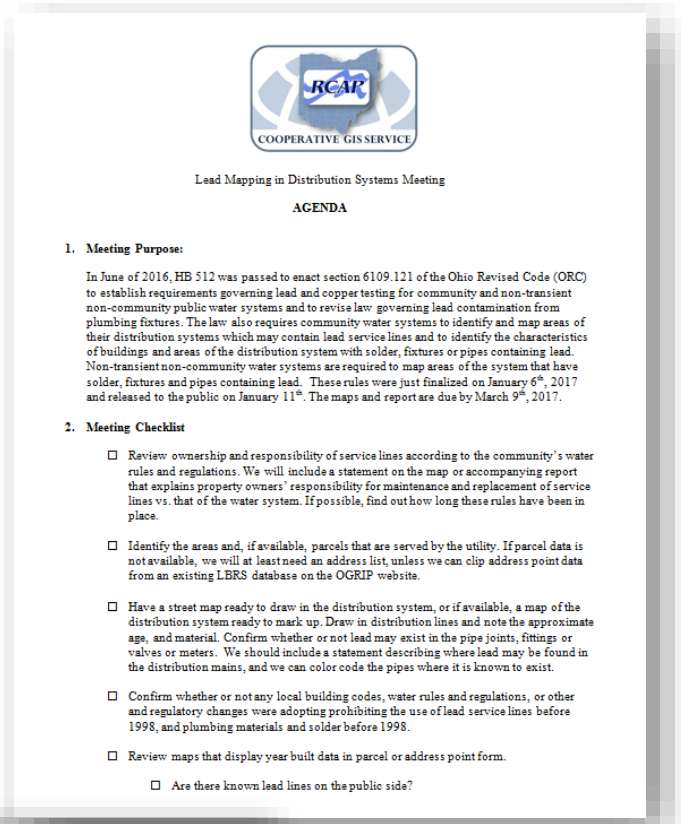
All public water systems were required to submit lead service line probability maps in March 2017, and updates will be required every five years.

- Lead and copper sampling
- Map distribution systems
- Identify all potential lead sources
- Map public and private service lines
- Description of buildings
- Protection of residents

https://epa.ohio.gov/ddagw/pws/leadandcopper/map

Process

- Meet in person or via video conference
- Complete interview questions
- Review map with parcel or address data
- Review records



COOPERATIVE GIS SERVICE

Lead Mapping in Distribution Systems Meeting

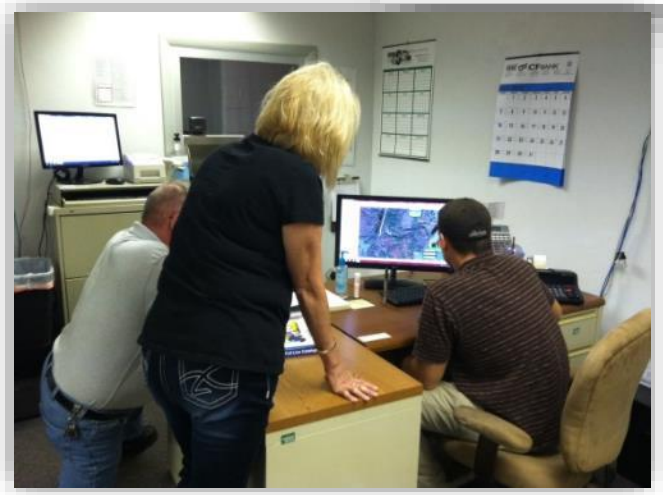
AGENDA

1. **Meeting Purpose:**

   In June of 2016, HB 512 was passed to enact section 6109.121 of the Ohio Revised Code (ORC) to establish requirements governing lead and copper testing for community and non-transient non-community public water systems and to revise law governing lead contamination from plumbing fixtures. The law also requires community water systems to identify and map areas of their distribution systems which may contain lead service lines and to identify the characteristics of buildings and areas of the distribution system with solder, fixtures or pipes containing lead. Non-transient non-community water systems are required to map areas of the system that have solder, fixtures and pipes containing lead. These rules were just finalized on January 6th, 2017 and released to the public on January 11th. The maps and report are due by March 9th, 2017.

2. **Meeting Checklist**

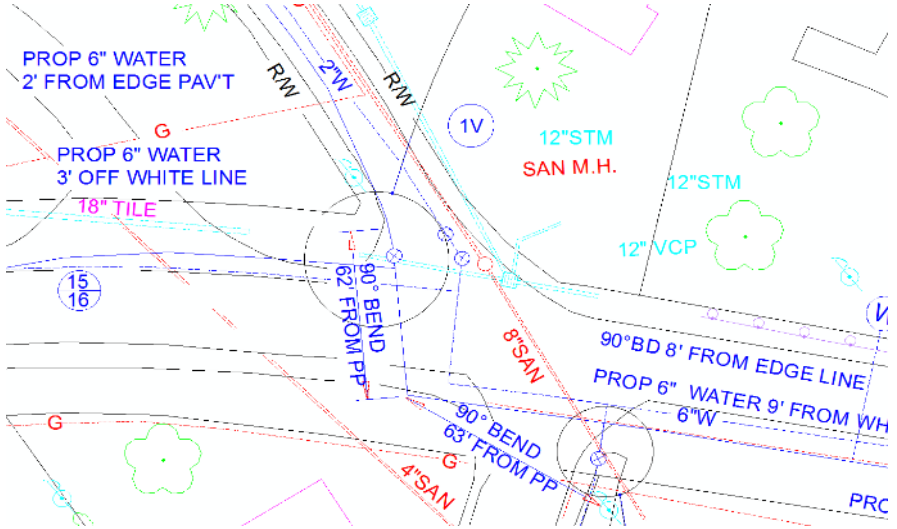
   - ☐ Review ownership and responsibility of service lines according to the community's water rules and regulations. We will include a statement on the map or accompanying report that explains property owners' responsibility for maintenance and replacement of service lines vs. that of the water system. If possible, find out how long these rules have been in place.
   - ☐ Identify the areas and, if available, parcels that are served by the utility. If parcel data is not available, we will at least need an address list, unless we can clip address point data from an existing LBRS database on the OGRIP website.
   - ☐ Have a street map ready to draw in the distribution system, or if available, a map of the distribution system ready to mark up. Draw in distribution lines and note the approximate age, and material. Confirm whether or not lead may exist in the pipe joints, fittings or valves or meters. We should include a statement describing where lead may be found in the distribution mains, and we can color code the pipes where it is known to exist.
   - ☐ Confirm whether or not any local building codes, water rules and regulations, or other and regulatory changes were adopting prohibiting the use of lead service lines before 1998, and plumbing materials and solder before 1998.
   - ☐ Review maps that display year built data in parcel or address point form.
     - ☐ Are there known lead lines on the public side?

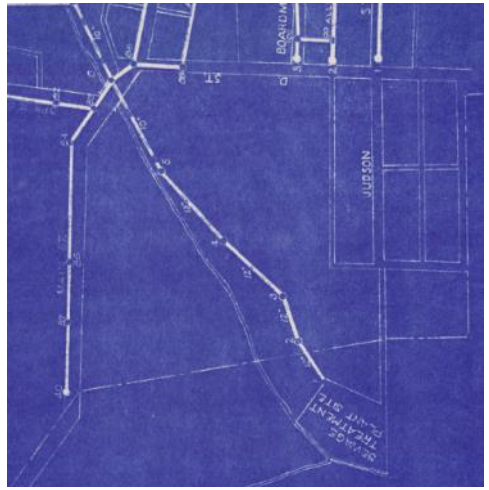


The Data Dilemma

Sources:

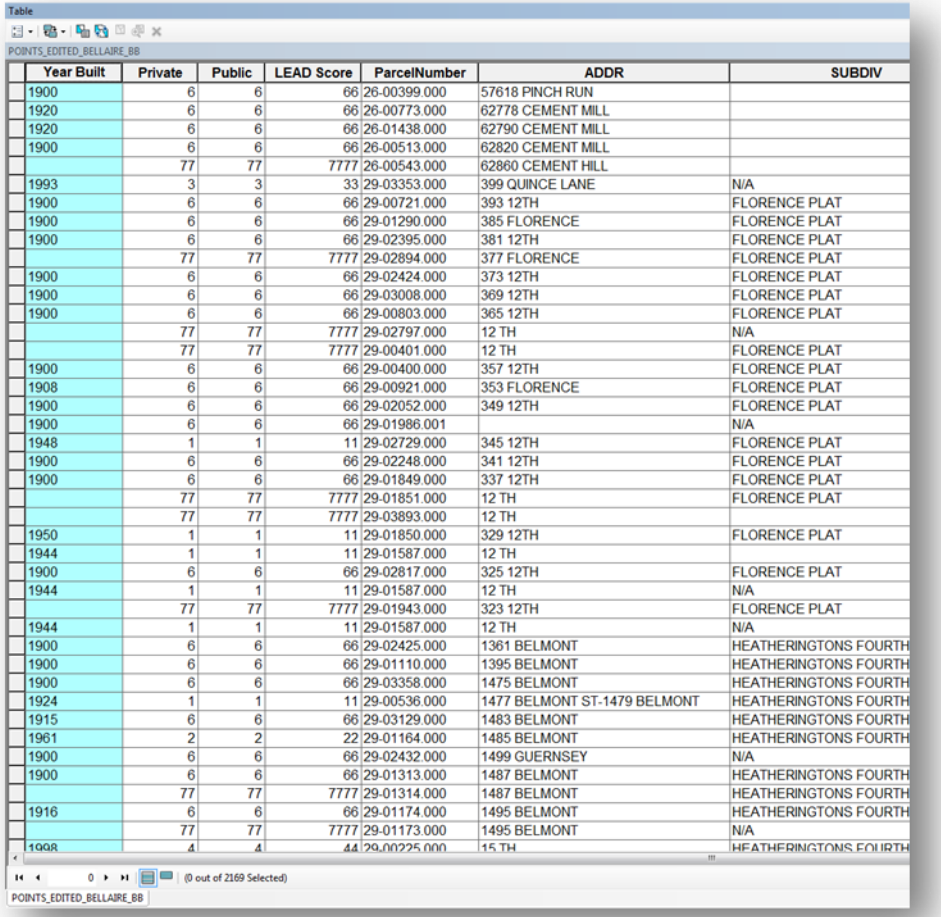
- As-builts/drawings
- Tap cards
- Operator knowledge
- Building permits





Process

1. Find Data
2. Join data to GIS
3. Symbolize by year built
4. Assign value to known
5. Assign probability value to unknown



Table

POINTS_EDITED_BELLAIRE_BB

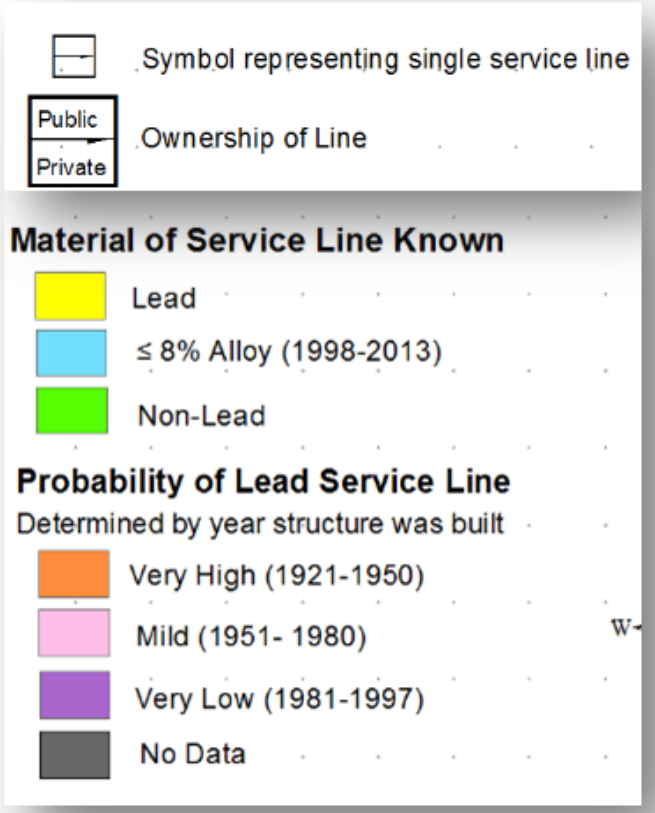
Year Built	Private	Public	LEAD Score	ParcelNumber	ADDR	SUBDIV
1900	6	6	66	26-00399.000	57618 PINCH RUN	
1920	6	6	66	26-00773.000	62778 CEMENT MILL	
1920	6	6	66	26-01438.000	62790 CEMENT MILL	
1900	6	6	66	26-00513.000	62820 CEMENT MILL	
	77	77	7777	26-00543.000	62860 CEMENT HILL	
1993	3	3	33	29-03353.000	399 QUINCE LANE	N/A
1900	6	6	66	29-00721.000	393 12TH	FLORENCE PLAT
1900	6	6	66	29-01290.000	385 FLORENCE	FLORENCE PLAT
1900	6	6	66	29-02395.000	381 12TH	FLORENCE PLAT
	77	77	7777	29-02894.000	377 FLORENCE	FLORENCE PLAT
1900	6	6	66	29-02424.000	373 12TH	FLORENCE PLAT
1900	6	6	66	29-03008.000	369 12TH	FLORENCE PLAT
1900	6	6	66	29-00803.000	365 12TH	FLORENCE PLAT
	77	77	7777	29-02797.000	12 TH	N/A
	77	77	7777	29-00401.000	12 TH	FLORENCE PLAT
1900	6	6	66	29-00400.000	357 12TH	FLORENCE PLAT
1908	6	6	66	29-00921.000	353 FLORENCE	FLORENCE PLAT
1900	6	6	66	29-02052.000	349 12TH	FLORENCE PLAT
1900	6	6	66	29-01986.001		N/A
1948	1	1	11	29-02729.000	345 12TH	FLORENCE PLAT
1900	6	6	66	29-02248.000	341 12TH	FLORENCE PLAT
1900	6	6	66	29-01849.000	337 12TH	FLORENCE PLAT
	77	77	7777	29-01851.000	12 TH	FLORENCE PLAT
	77	77	7777	29-03893.000	12 TH	
1950	1	1	11	29-01850.000	329 12TH	FLORENCE PLAT
1944	1	1	11	29-01587.000	12 TH	
1900	6	6	66	29-02817.000	325 12TH	FLORENCE PLAT
1944	1	1	11	29-01587.000	12 TH	N/A
	77	77	7777	29-01943.000	323 12TH	FLORENCE PLAT
1944	1	1	11	29-01587.000	12 TH	N/A
1900	6	6	66	29-02425.000	1361 BELMONT	HEATHERINGTONS FOURTH
1900	6	6	66	29-01110.000	1395 BELMONT	HEATHERINGTONS FOURTH
1900	6	6	66	29-03358.000	1475 BELMONT	HEATHERINGTONS FOURTH
1924	1	1	11	29-00536.000	1477 BELMONT ST-1479 BELMONT	HEATHERINGTONS FOURTH
1915	6	6	66	29-03129.000	1483 BELMONT	HEATHERINGTONS FOURTH
1961	2	2	22	29-01164.000	1485 BELMONT	HEATHERINGTONS FOURTH
1900	6	6	66	29-02432.000	1499 GUERNSEY	N/A
1900	6	6	66	29-01313.000	1487 BELMONT	HEATHERINGTONS FOURTH
	77	77	7777	29-01314.000	1487 BELMONT	HEATHERINGTONS FOURTH
1916	6	6	66	29-01174.000	1495 BELMONT	HEATHERINGTONS FOURTH
	77	77	7777	29-01173.000	1495 BELMONT	N/A
1998	4	4	44	29-00225.000	15 TH	HEATHERINGTONS FOURTH

0 (0 out of 2169 Selected)

POINTS_EDITED_BELLAIRE_BB

Data Analysis

1. Find Data
2. Join data to GIS
3. Symbolize by year built
4. Assign value to known
5. Assign probability value to unknown



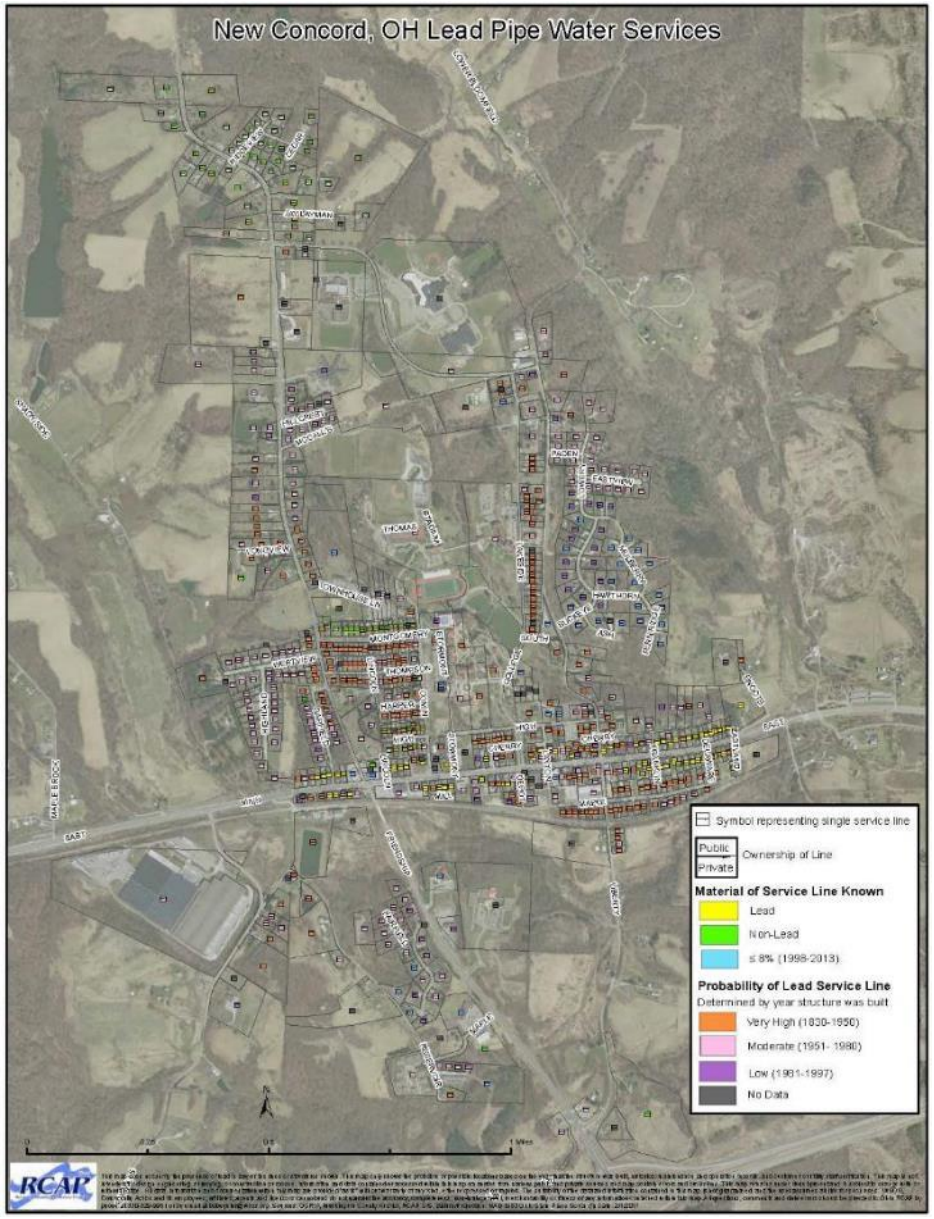
Data Analysis

1. Find Data
2. Join data to GIS
3. Symbolize by year built
4. Assign value to known
5. Assign probability value to unknown

Results

Public Service Line Lead Probability		
Possibility of Lead	**Public Lines #**	**% of System**
Very Likely or Verified Lead	64	9.10%
Non-Lead	83	11.81%
≤ 8% Lead Alloy	35	4.98%
Very High Probability	225	32.01%
Moderate Probability	206	29.30%
Low Probability	37	5.26%
No Data	53	7.54%

Private Service Line Lead Probability		
Possibility of Lead	**Private #**	**% of System**
Very Likely or Verified Lead	64	9.10%
Non-Lead	6	0.85%
≤ 8% Lead Alloy	35	4.98%
Very High Probability	266	37.84%
Moderate Probability	239	34.00%
Low Probability	40	5.69%
No Data	53	7.54%



Results

Village of Bellaire
Public Water System Lead (Pb) Components
PWSID# OH-0700114
Prepared February 2017

To comply with Section 6109.121 of the Ohio Revised Code, enacted in September 2016, the Village of Bellaire in Belmont County, Ohio has created the following report and attached map to identify known and potential components of water service lines that contain lead (Pb).

RCAP staff and the Village of Bellaire Water Department met on February 10th, 2017 to review a map of the service area. A list of known locations of lead service lines (LSLs) that are still being used, and locations where LSLs have been replaced were compiled by the Village of Bellaire Water Department. That list only accounted for about 5% of the service lines in the system. No applicable historical maintenance and operation records, tap cards, or as-builts were available to identify other LSL locations.

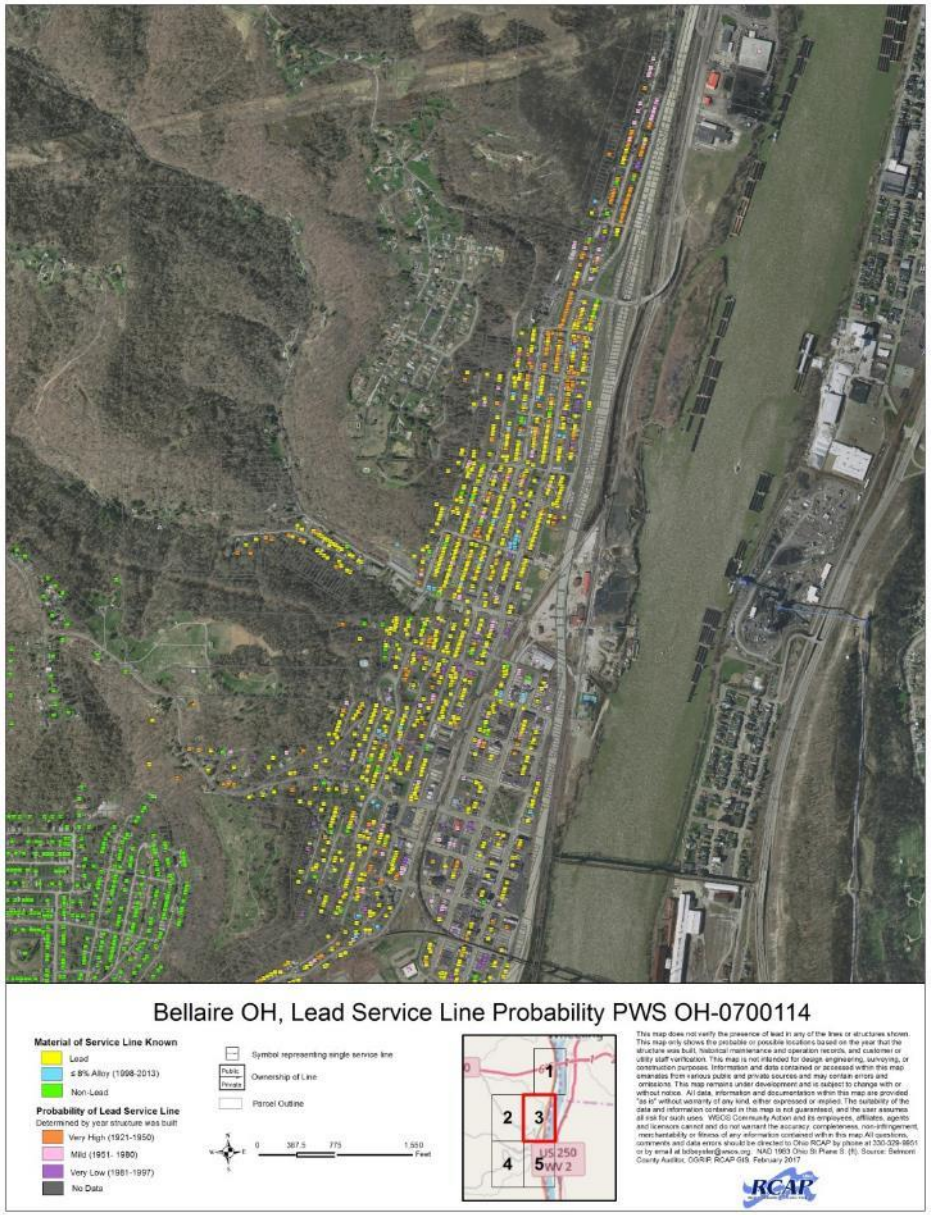
Public and Private Ownership of Service Lines

The Village owns and maintains service lines from the water distribution mains up to the curb stops. The remainder of each service line from the curb stop to the building is considered private property and is the responsibility of the property owner.

Known and Probable LSLs

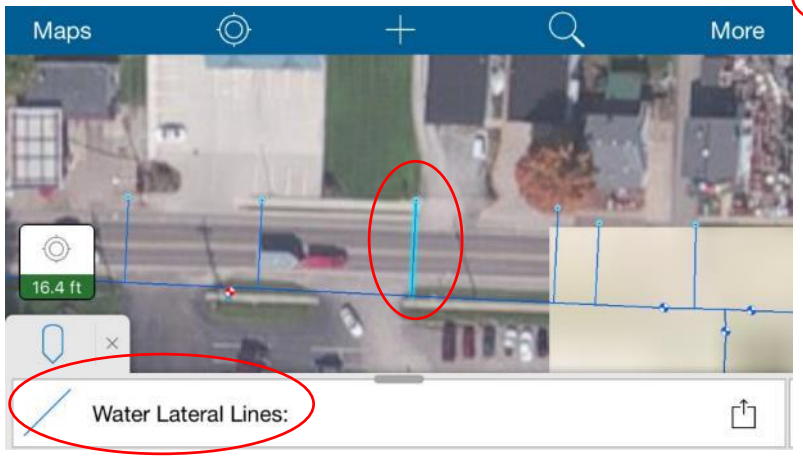
The tables below provide information about the estimated number of LSLs serving the customers of Bellaire Water. The year the structure was built, the year plumbing material was installed, or staff knowledge determines which category it falls into.

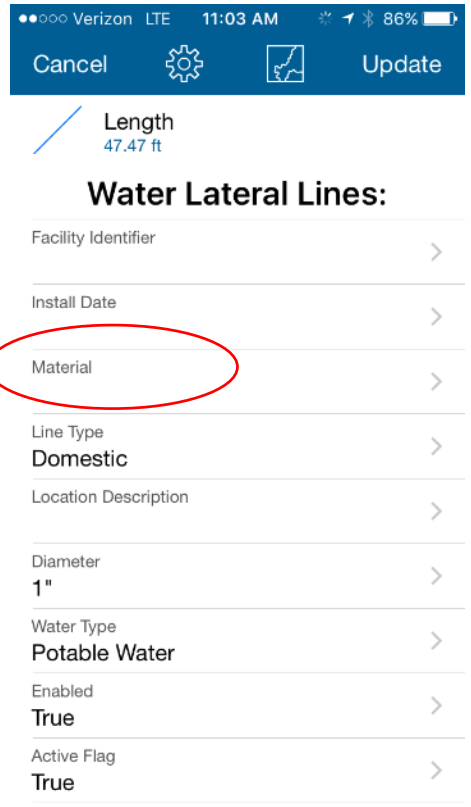
Public LSL Probability		
Value	**Public Lines #**	**% of System**
Non-Lead	646	28.47%
≤ 8% Lead Alloy	42	1.85%
Very Low (1981-1997)	71	3.13%
Mild (1951-1980)	115	5.07%
Moderate (1921-1950)	251	11.06%
Unconfirmed Public LSLs (1825-1920)	1002	44.16%
Confirmed Public LSLs	47	2.07%
No Data	95	4.19%

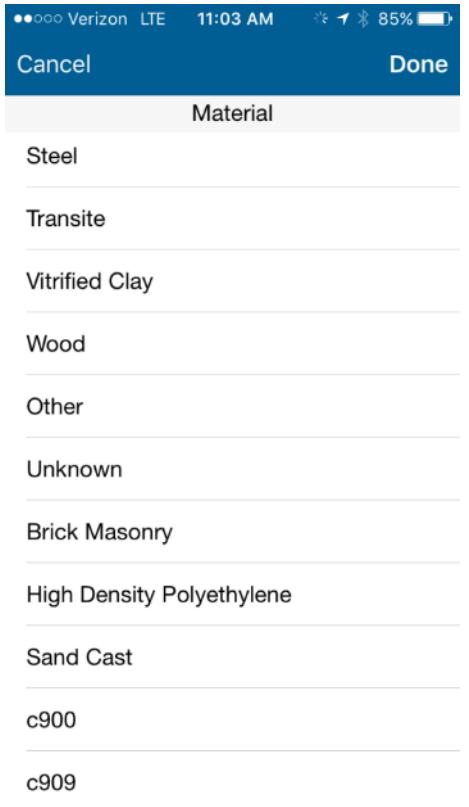


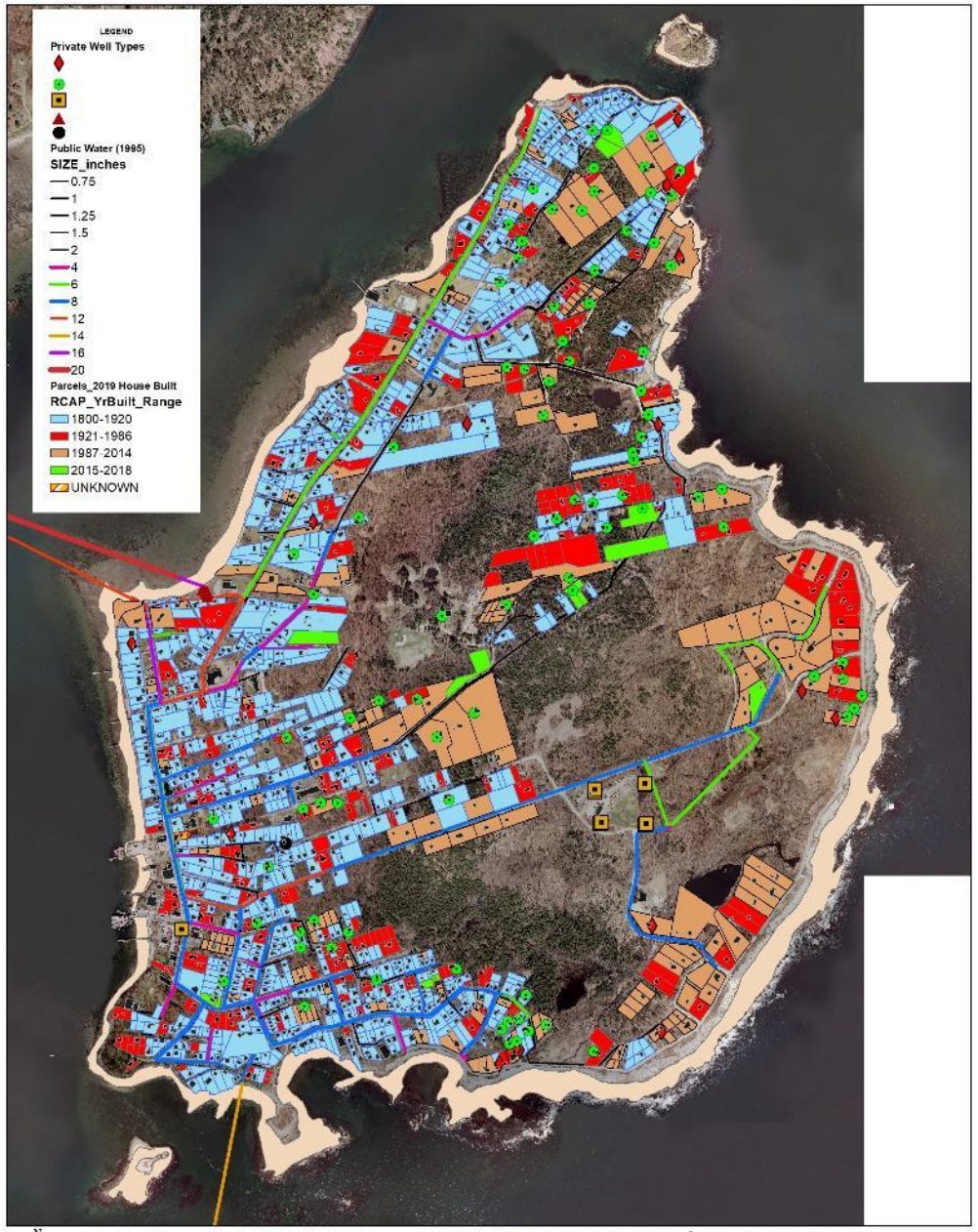
Updating Service Lines with Mobile Apps

- Collector Application









Lead Probability: House Year-Built Public Water & Private Wells

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Map created by RCAP Solutions 2019 January

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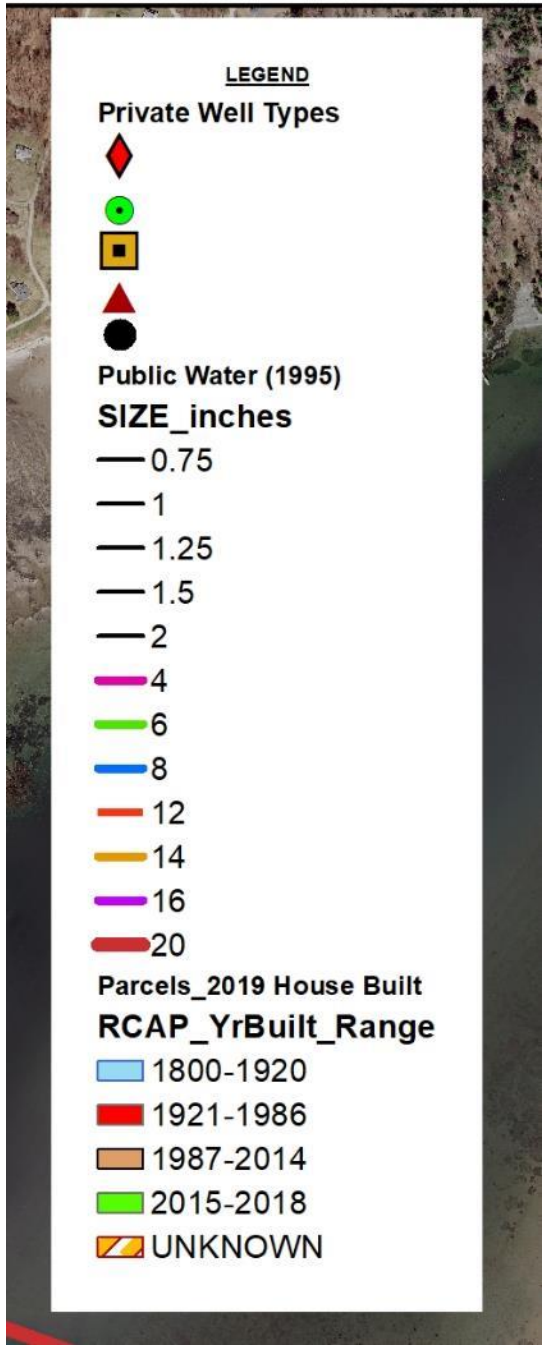

Discussion

THANK YOU!

www.RCAP.org

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