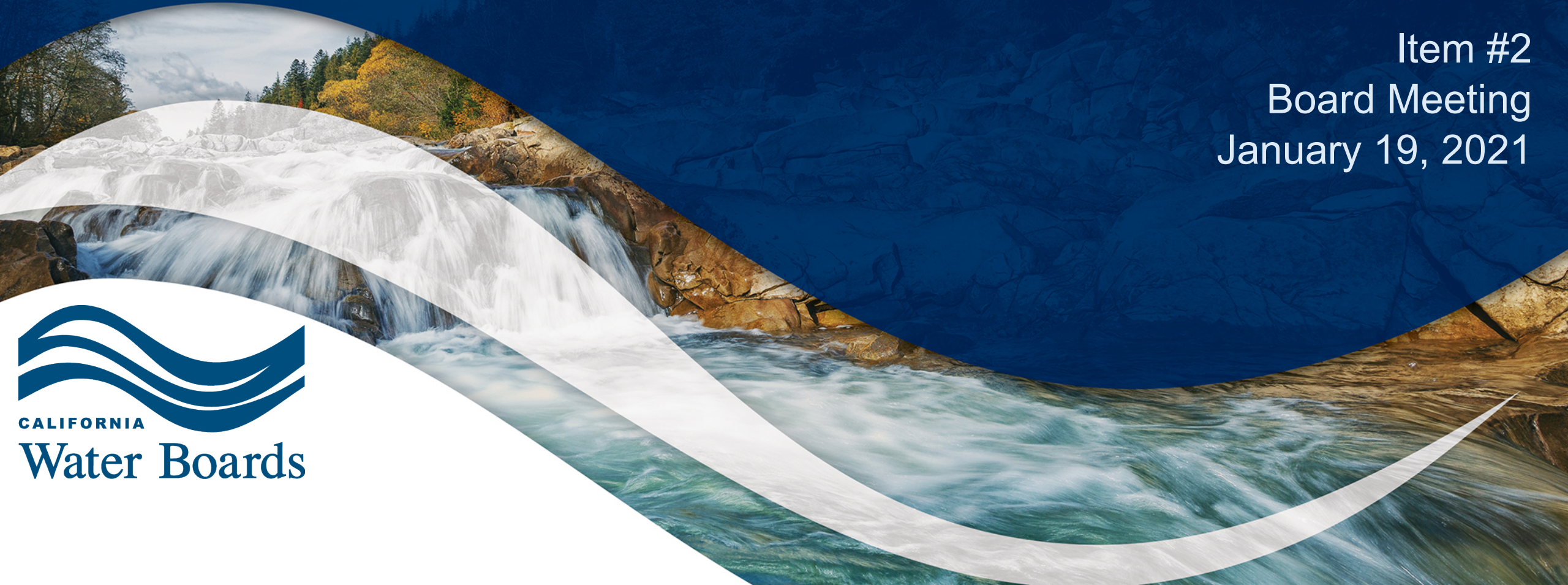


# COVID-19 Drinking Water Survey

Item #2  
Board Meeting  
January 19, 2021



# ***Board Actions***

- Executive Order N-42-20: April 2020
  - Implementation of EO N-42-20: Guidelines and Best Practices for Water and Wastewater Systems (April 30, 2020)
- Shut Off/Repayment Website and Hotline
  - File a report: [COVID-19 Water Shutoff - State of California](#)
  - Call hotline (language translation available): 844-903-2800
- Initial system impact survey: June 2020
- Joint workshop with California Public Utilities Commission: October 2020
- System and household impact survey: November 2020

# Shut Off/Repayment Reports

- 220 COVID-19 Reports Received since portal launch
- December 2020
  - 98 Reports Received
- January 2021
  - 26 Reports Received as of 1/12/21
- Staff follow up with water system for each report

# Survey Background & Objectives

- Why did we administer the survey?
  - To understand financial impacts to drinking water systems
  - To understand household water bill debt
  - To inform the development of assistance options

Small/Medium Water Systems	Large Water Systems
450 systems received an email on 11/9	150 systems received an email with the survey on 11/9
Division of Drinking Water staff collected survey responses via phone calls	Workshop for large systems held 11/18

# Survey Questions

Small/Medium System Questions	Large System Questions
<p><b>System finances</b> (Revenues, expenses, cash reserves, months before assistance needed)</p>	<p><b>Household debt</b> (Delinquent accounts, debt levels, total water bill debt, drinking water debt, debt per billing cycle, debt levels per zip code)</p>
<p><b>Household debt distribution</b> (Number of accounts with debt, total amount of debt, debt amount per zip code)</p>	<p><b>Fees and repayment options</b> (Late fees charged, number of accounts on repayment plans)</p>

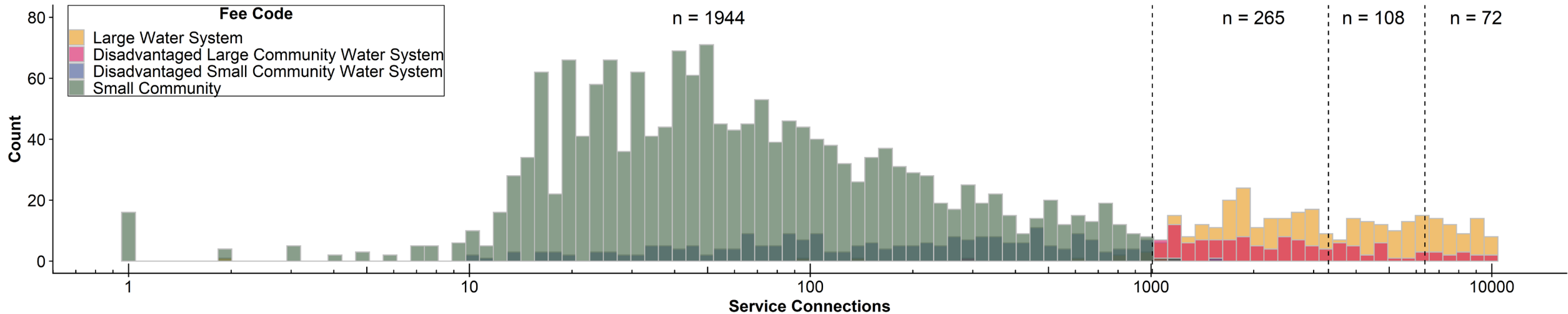
# Survey Response

Large (>10,000 connections) systems	
Number of large water systems	223
Number of large system survey responses	131 (151 systems)
Total population served by large systems	32.4 million
Large system sample population	24.2 million
Percent of large system population covered by survey responses	75%
Small/medium (<10,000 connections) systems	
Number of small/medium water systems	2661
Number of small/medium system survey responses	406 (428 systems)
Total population served by small/medium systems	7.1 million
Small/medium system sample population	4.0 million
Percent of small/medium population covered by survey responses	56%

# Survey Design: Binning Small/Medium Systems

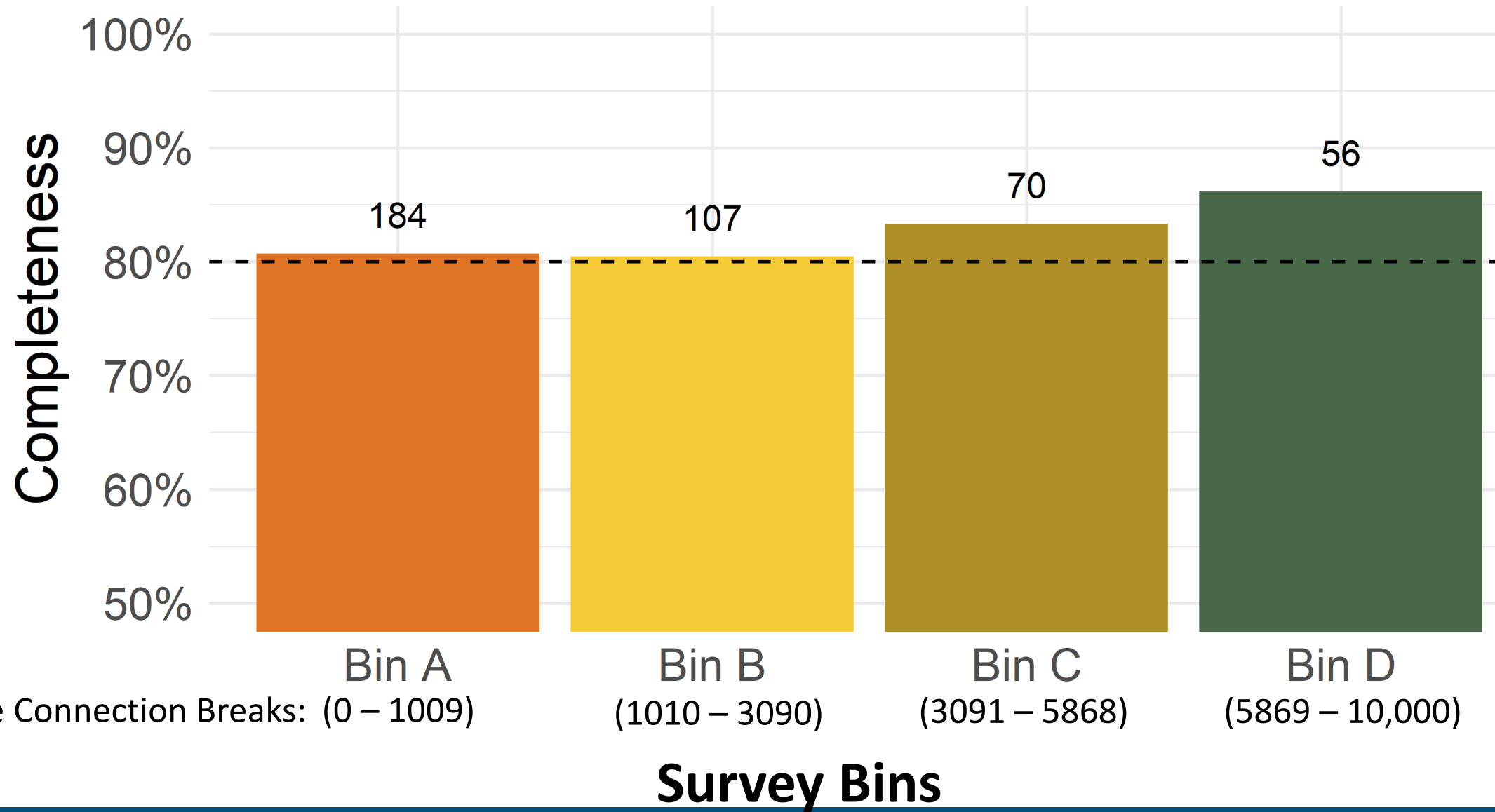
**Histogram of Water Systems Considered For Survey Sampling**

*Sampling strata breaks shown in dotted lines*



Data from SDWIS (10/2020)

# Survey Completeness





# **System Financial Vulnerability: Small/Medium Systems**

# Vulnerable Systems: Months before financial assistance required

Months before assistance needed	Survey sample	Survey %	Statewide estimate	Statewide %
No assistance needed	249	60%	1474	62%
>12 months	79	19%	353	15%
9-12 months	14	3%	54	2%
6-9 months	11	3%	45	2%
<b>3-6 months</b>	<b>18</b>	<b>4%</b>	<b>77</b>	<b>3%</b>
<b>0-3 months</b>	<b>12</b>	<b>3%</b>	<b>57</b>	<b>2%</b>

Self-reported estimate of months before financial assistance required. "High-risk" indicators are denoted in red.

# Vulnerable Systems:

## Days of unrestricted cash on hand

Days of unrestricted cash on hand	Survey sample	Survey %	Statewide estimate	Statewide %
>365 days	151	36%	998	42%
180-365 days	68	16%	326	14%
90-180 days	59	14%	257	11%
60-90 days	15	4%	46	2%
<b>30-60 days</b>	<b>24</b>	<b>6%</b>	<b>117</b>	<b>5%</b>
<b>&lt;30 days</b>	<b>60</b>	<b>14%</b>	<b>315</b>	<b>13%</b>

Reported unrestricted cash reserve at time survey was taken, divided by estimated daily expenses for report period (April-October). "High-risk" indicators are denoted in red.

**Note: Unrestricted cash on hand is only an indirect indicator of a water systems ability to operate and does not directly indicate a system may fail.**

# Vulnerable Systems: Revenue to expense ratio

Revenue to expense ratio	Survey sample	Survey %	Statewide estimate	Statewide %
>2	68	16%	414	17%
1.5-2	49	12%	250	10%
1.2-1.5	74	18%	358	15%
0.95-1.2	87	21%	395	17%
<b>0.5-0.95</b>	<b>69</b>	<b>17%</b>	<b>403</b>	<b>17%</b>
<b>&lt;0.5</b>	<b>30</b>	<b>7%</b>	<b>240</b>	<b>10%</b>

Total reported revenue for the April-October reporting period, divided by total reported expenses for April-October. "High-risk" indicators are denoted in red.

# Vulnerability Scores and Statewide Estimates

Vulnerability	Survey sample	Survey %	Statewide estimate	Statewide %
Low	218	52%	1172	49%
Medium	116	28%	592	25%
<b>High</b>	<b>38</b>	<b>9%</b>	<b>270</b>	<b>11%</b>
<b>Extreme</b>	<b>5</b>	<b>1%</b>	<b>25</b>	<b>1%</b>

Vulnerability scores were determined by the count of “high-risk” indicators per system (marked in red in the previous tables).

- Systems with **0 out of 3** high-risk indicators have **low** financial vulnerability.
- Systems with **1 out of 3** high-risk indicators have **medium** financial vulnerability
- Systems with **2 out of 3** high-risk indicators have **high** financial vulnerability
- Systems with **3 out of 3** high-risk indicators have **extreme** financial vulnerability

**Note:** These scores are estimates only and should be used only as possible indicators and do not indicate directly that systems are of have failed.

# Comments from Small/Medium Systems

- Delays of capital improvement projects
- Planned new rate increases to recuperate lost revenue
- Postpone rate increases
- Increased costs due to COVID-19
  - Personal protective equipment and sanitation
  - Increased employee absences (social distancing or quarantine)
  - Equipment for staff to work remotely

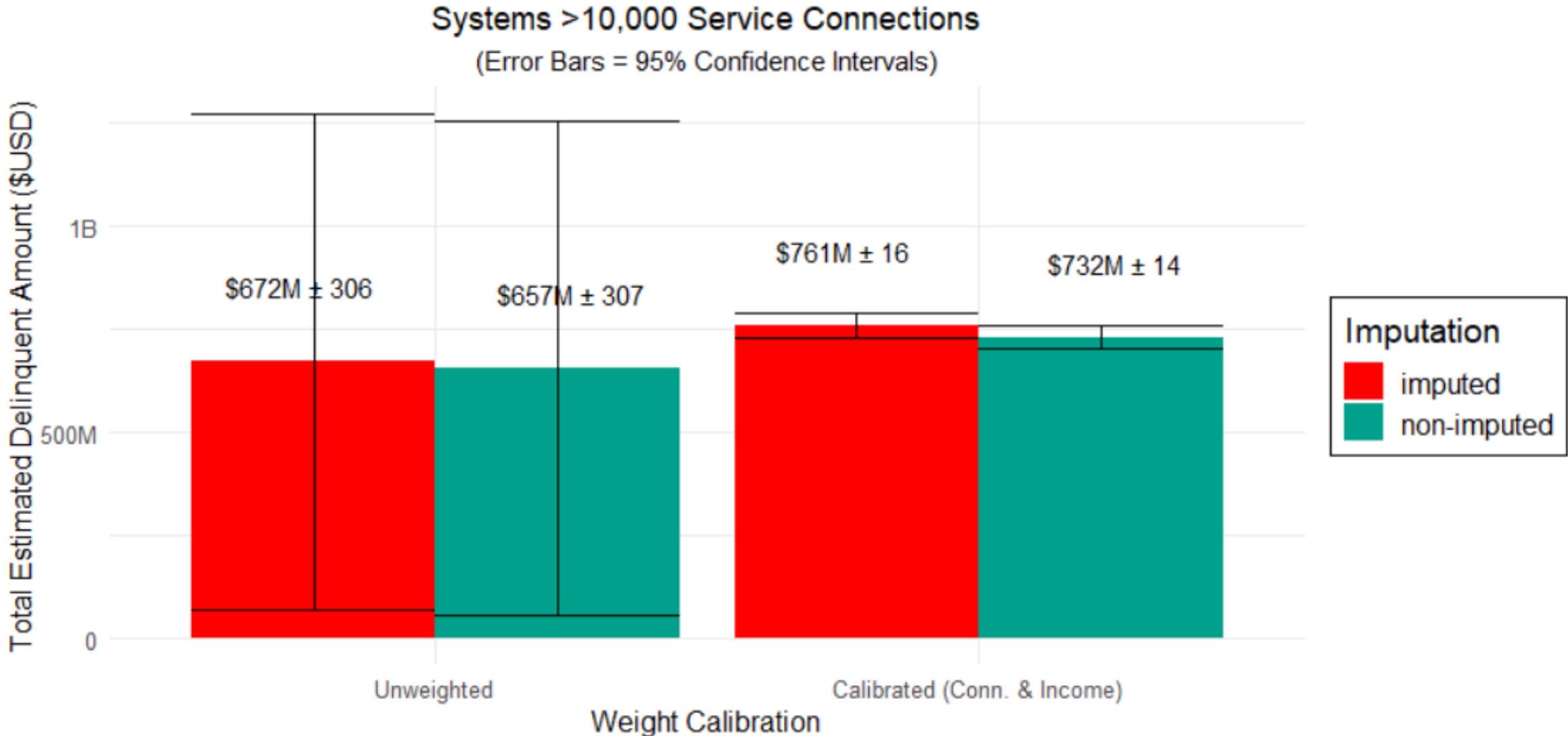
# Household Debt Results

# Total Statewide Household Debt: March – October 2020

Data	System size	Survey Total	Statewide Estimate
<b>Total Debt (\$USD)</b>	Large	\$671.8 million	\$731.7 million +/- \$1.4 million
	Small/Medium	\$33.0 million	\$57.6 million +/- \$2.5 million
	<b>Total</b>	<b>\$704.8 million</b>	<b>\$789.3 million +/- \$3.9 million</b>
<b>Number of delinquent accounts with &gt;\$1000 debt</b>	Small/Medium	11,222	
	Large	143,872	170,000 +/- 17,900
	<b>Total</b>	<b>155,094</b>	



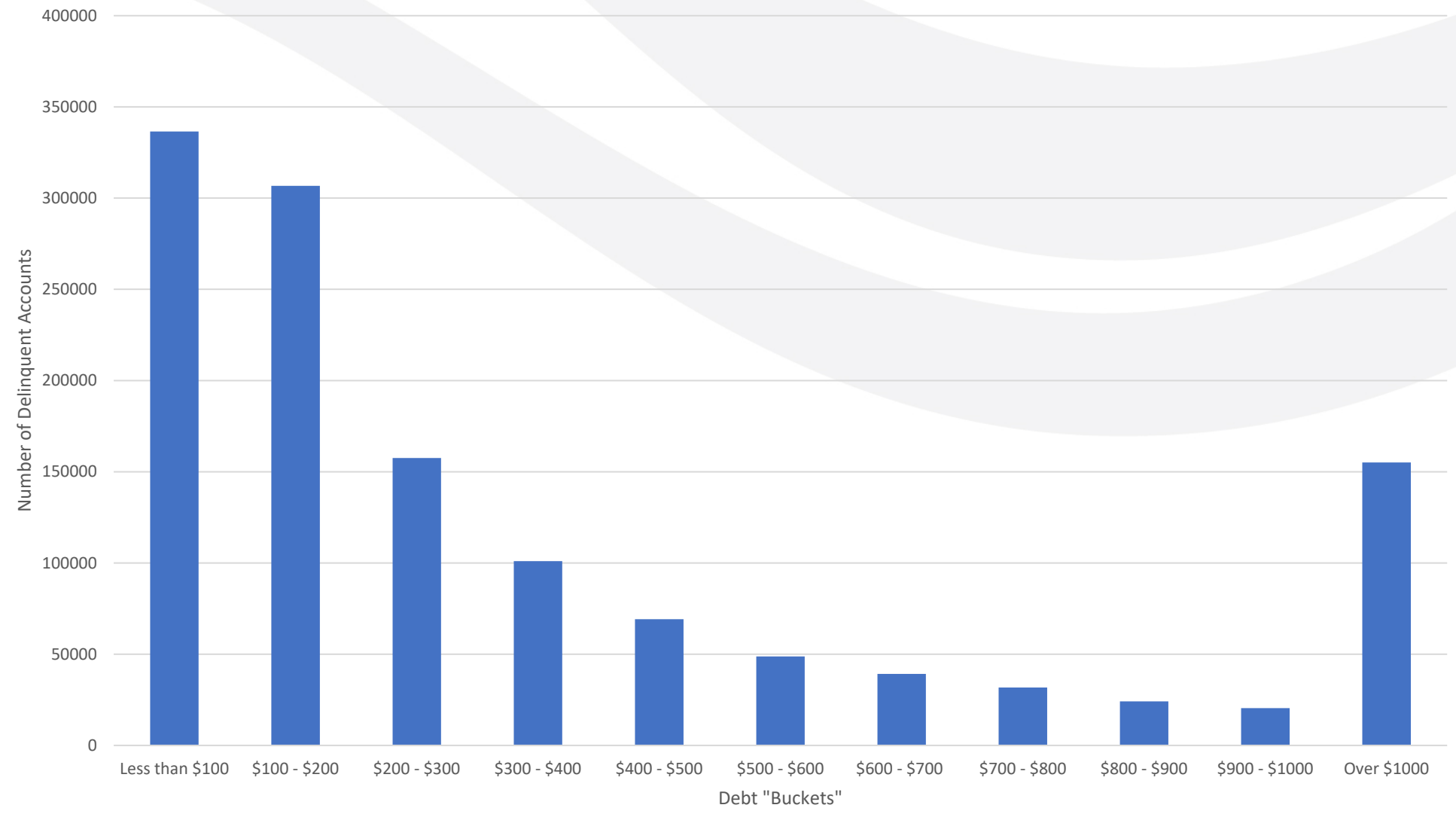
# Household Debt Estimate: Large Systems



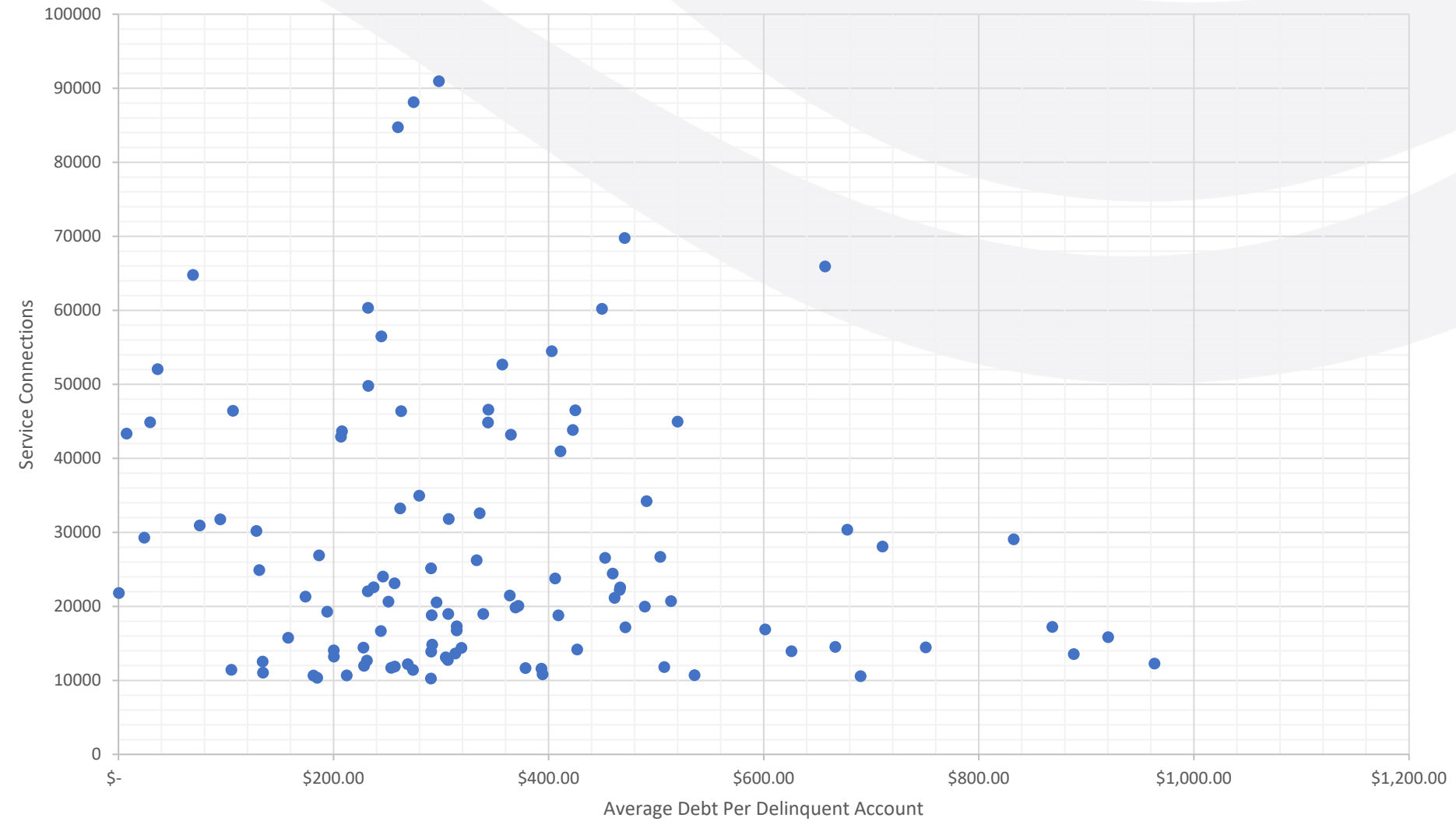
# Summary of Household Debt Data

- **How much household water debt exists?**
  - The Board estimates \$1 billion in household water debt across the state.
  - This is an estimate of total current household water debt based on \$789 million in debt accrued through October 2020.
- **Is all of the debt for drinking water service?**
  - All of the debt is from non-payment of water bills. However, some water systems collect charges for other services, such as wastewater, stormwater, and energy on the water bill. The Board's estimate of drinking-water specific debt is between \$600 and \$700 million.
- **How many households have water debt?**
  - The Board estimates that at least 1.6 million households have water debt. This means at least 12% of households in the state have water debt.
- **What is the average amount of water debt?**
  - The average debt amount is roughly \$500 per household.

### Distribution of Delinquent Accounts



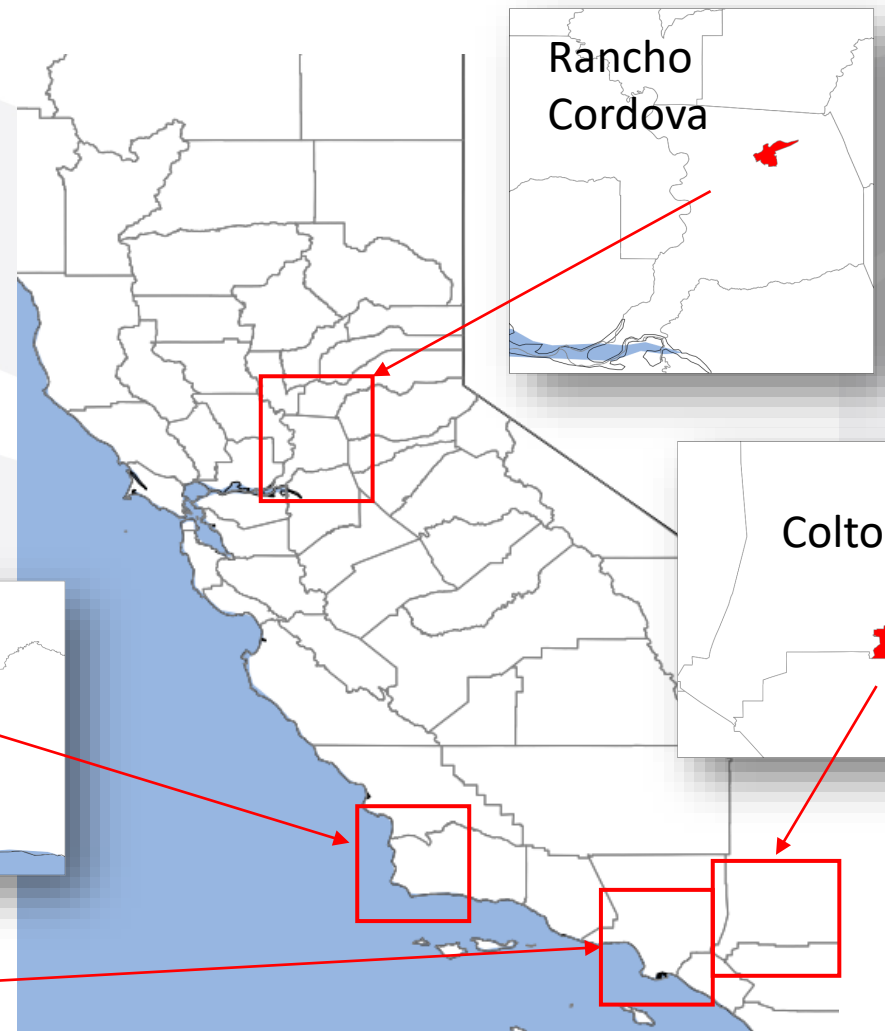
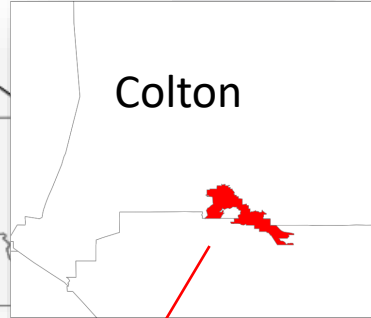
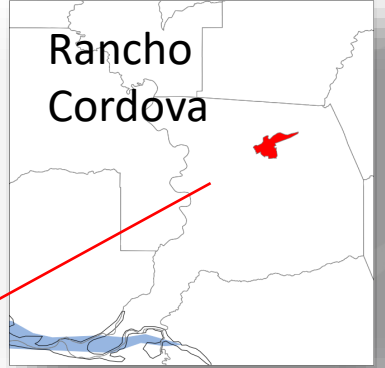
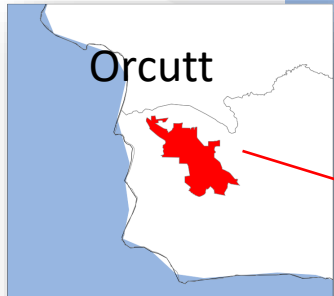
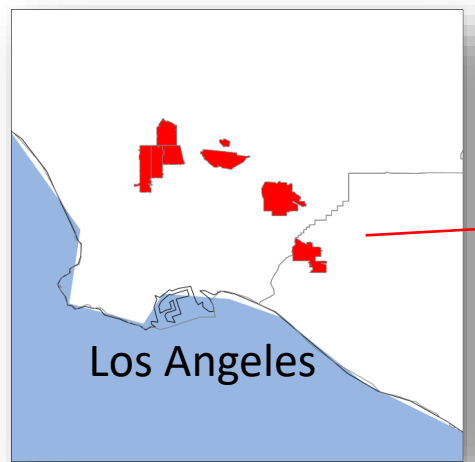
# Relationship Between Service Connections and Average Debt/ Delinquent Account



# Zip Code Analysis

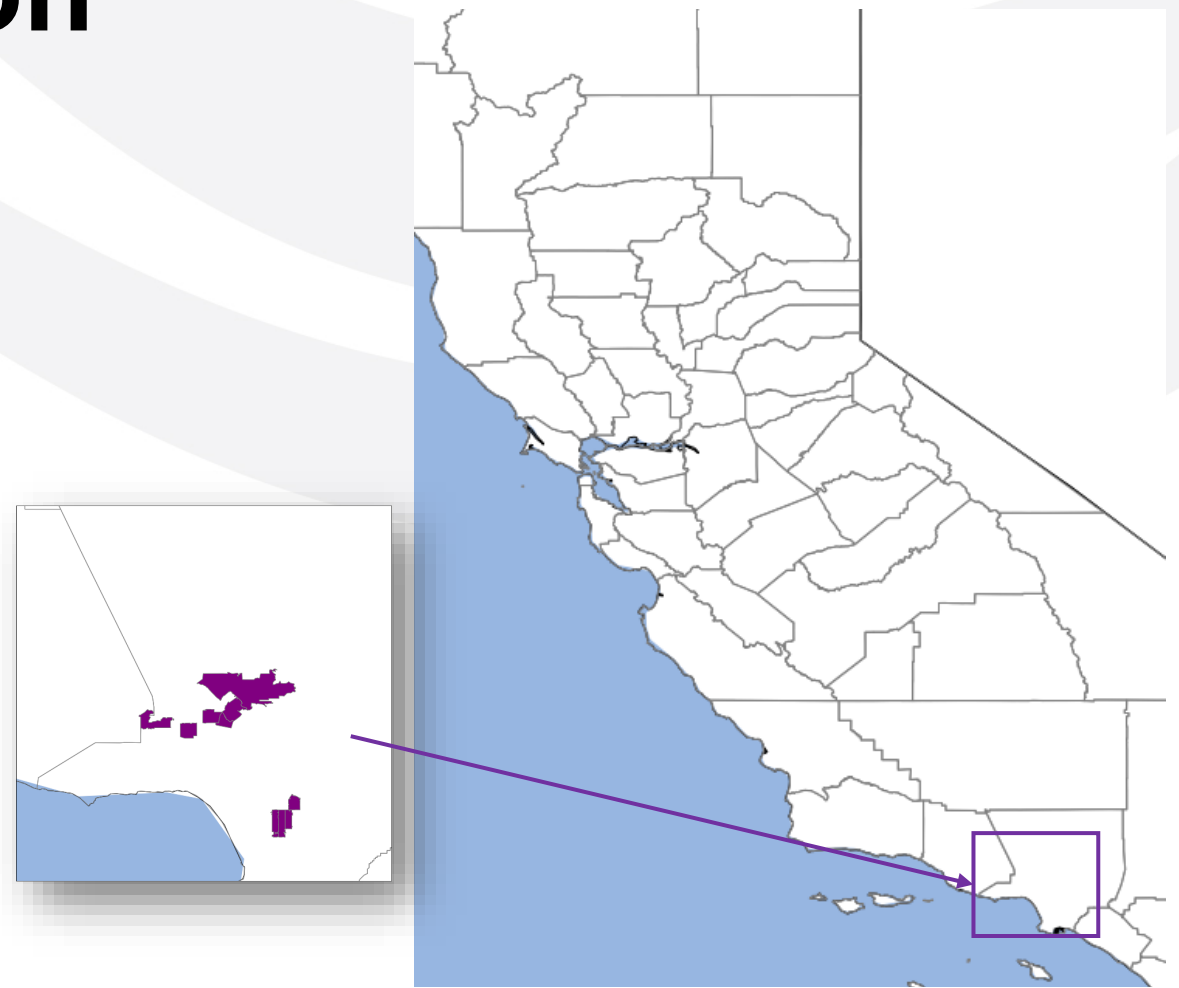
# Debt Concentration

Zip codes with highest overall numbers of delinquent accounts are concentrated in Los Angeles area, with other high numbers in Colton, Orcutt, and Rancho Cordova



# Debt Concentration

Zip codes with highest overall numbers of >\$1,000 debt accounts are all located in the Los Angeles area



# Delinquency totals by zip code

Zip Code	TOTAL number of delinquent accounts
90001	14,902
<b>90011</b>	<b>14,630</b>
93455	13,942
<b>90044</b>	<b>13,793</b>
<b>90003</b>	<b>13,669</b>
92324	13,204
95670	12,807
90201	12,509
90650	11,645
90630	11,402

Zip Code	Number of accounts with >\$1000 debt
<b>90011</b>	<b>3,502</b>
<b>90003</b>	<b>3,437</b>
<b>90044</b>	<b>3,165</b>
91331	2,803
91342	2,672
91335	2,600
91304	2,509
91343	2,320
91402	2,236
90047	2,200

Zip codes 90003, 90004, and 90011 are in the top 10 zip codes for both total number of delinquent accounts and accounts with >\$1,000 debt

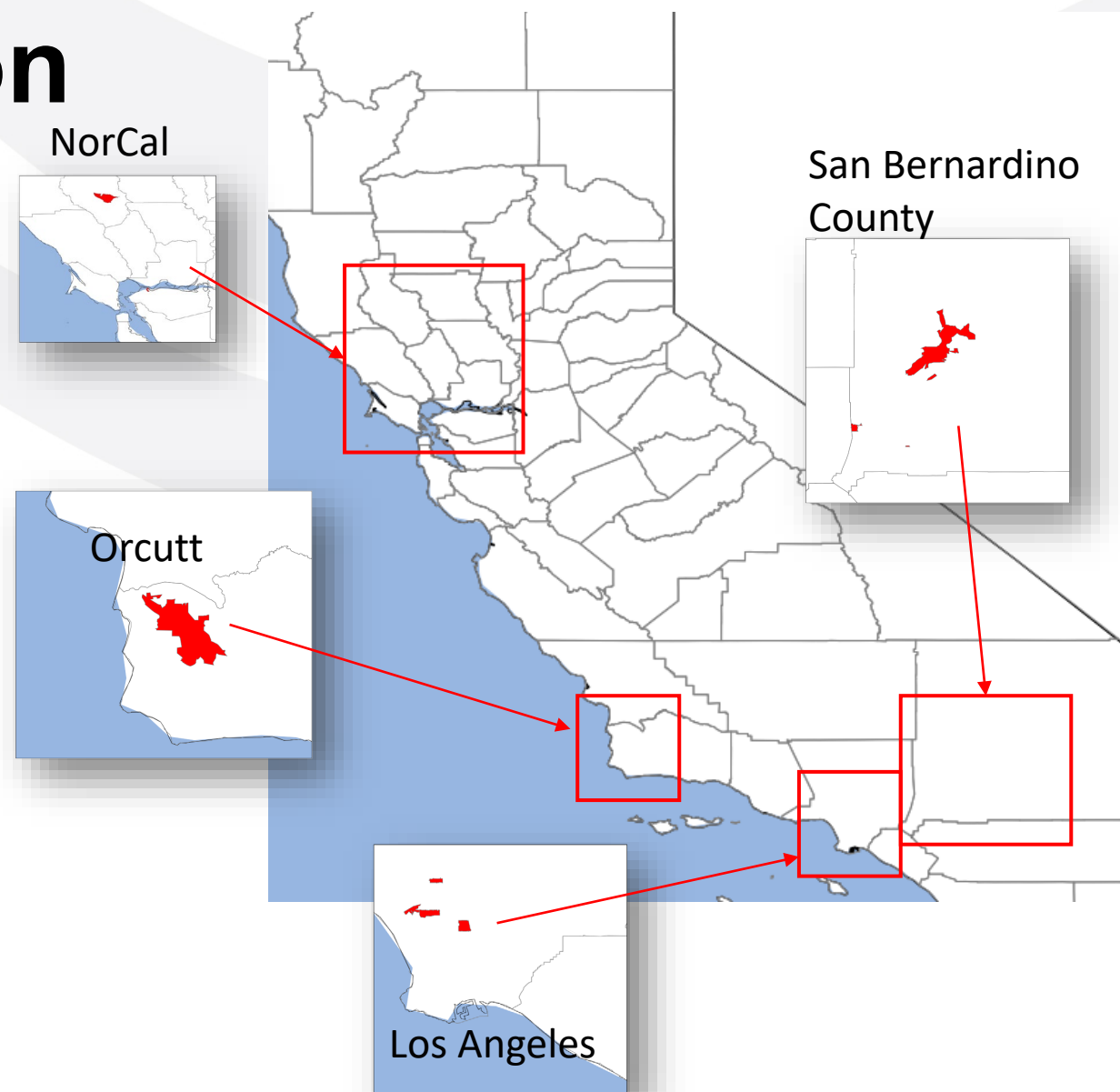


# Debt Concentration

Zip codes with highest per capita number of delinquent accounts consisted of a mix of high- and low-population zip codes

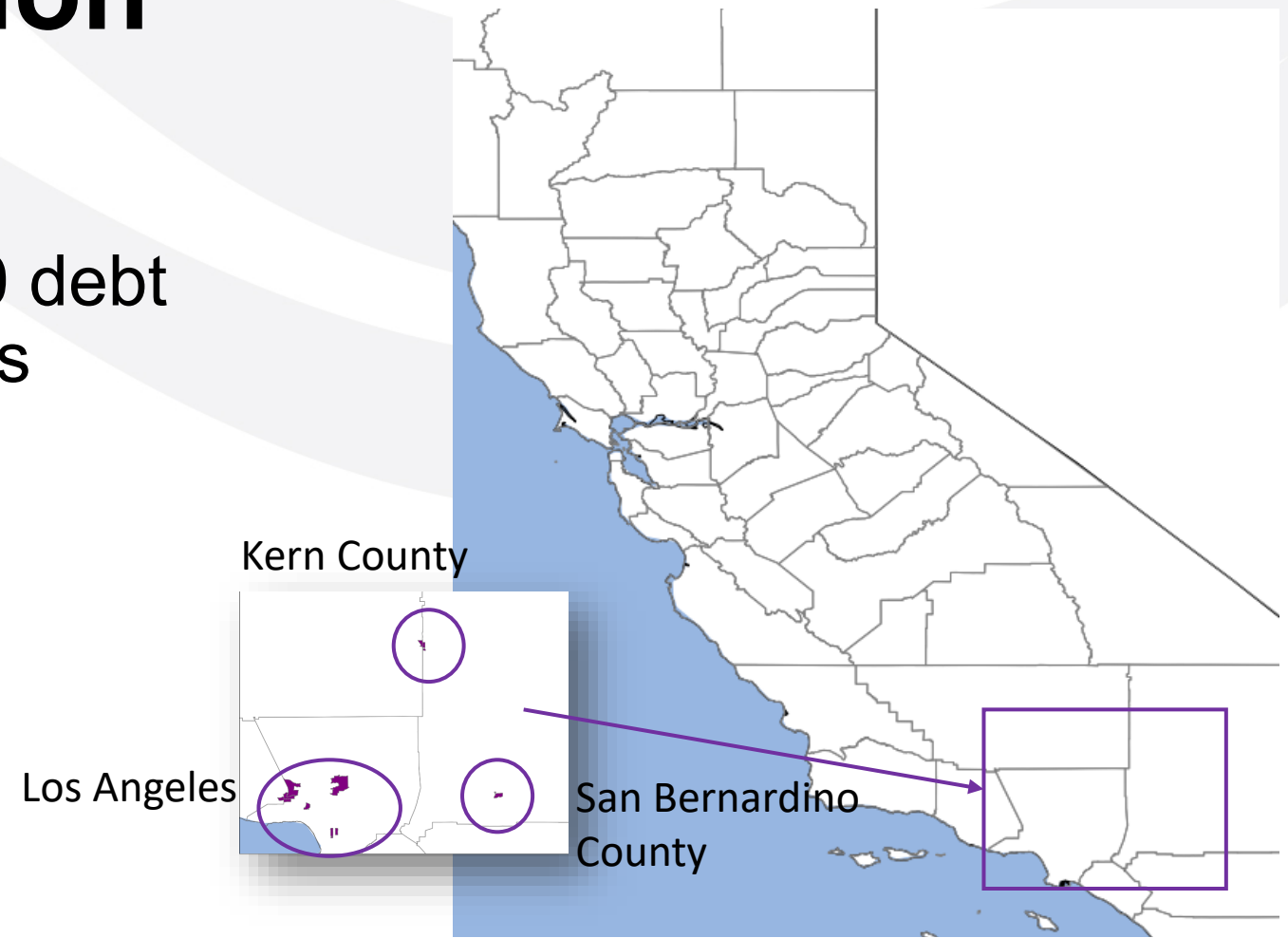
Northern California:  
Clearlake, Port Costa

Southern California: Orcutt,  
Los Angeles, San Bernardino County



# Debt Concentration

Zip codes with highest per capita numbers of >\$1,000 debt accounts are located in Los Angeles, San Bernardino County, and Kern County



# Per Capita delinquency by zip code

Zip Code	Number of Delinquent Accounts	Total Population
94569	81	205
92397	1,775	4,571
95422	5,584	15,550
<b>93455</b>	<b>13,942</b>	<b>45,116</b>
92311	9,953	33,612
90028	8,352	30,734
90232	3,724	14,660
<b>90001</b>	<b>14,902</b>	<b>58,975</b>
90008	7,758	31,739
92378	63	263

Zip Code	Number of accounts with >\$1000 debt	Total Population
92341	28	203
93558	4	40
91307	1,416	26,595
91436	785	15,070
<b>90003</b>	<b>3,437</b>	<b>72,741</b>
<b>91304</b>	<b>2,509</b>	<b>53,761</b>
90047	2,200	48,883
91311	1,812	40,420
93528	6	138
91042	1,137	26,631

Zip codes 90001, 90003, 91304, and 93455 also had high numbers for total/\$1,000 debt accounts

# Demographic Correlations

- Racial disparities:
  - Zip codes with higher percentages of Hispanic and Black households have:
    - A higher percentage of households with some level of debt
    - A higher average level of debt
    - A higher percentage of households with very high levels of debt (above \$600 and above \$1,000)
- Strong correlation with median household income

# Zip Code Debt per Delinquent Household: Predominantly Non-White Zip Codes

	Non-Hispanic White	Hispanic	Black	Asian
Total Debt per Delinquent Household	\$380.86	\$377.76	\$485.52	\$249.27
Disadvantaged Community Debt per Delinquent Household	\$292.12	\$386.57	\$496.99	\$234.75

# Data Limitations

- Billing software limitations that resulted in incomplete survey responses
  - 79 systems
    - Do not keep historic data
    - Difficulty sorting accounts by customer class
    - Difficulty with zip code extraction
- Some systems were unable to isolate drinking water portion of total debt

# Next Steps

- Technical call to explain statistical analysis methods
  - Wednesday, January 20, 2020, 3:00-4:30pm
- Work with Administration and Legislature to develop assistance options
- Continue outreach to vulnerable systems
  - Systems should contact their District Engineer if they anticipate needing assistance
- Continue collaboration with California Public Utilities Commission