Descriptive summary

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Overview of consolidations 2015-2021

In 2015 there were 7,642 Public Water Systems (PWSs) in the state, 3,015 of which were Community Water Systems (CWS) (2015 Safe Drinking Water Plan). Today, the state counts 7,351 PWS with 2,870 CWS. Some of this reduction can be attributed to system consolidations. Compiling various state data sources we have identified 229 cases of consolidation including 126 consolidated CWS resulting in the inactivation of approximately 188 systems over the course of the last six years.

These consolidations have taken place is nearly every county (47 total) and impacted an estimated 20521249 Californians served by involved systems, both those that have been consolidated and those that received them. 517985 Californians have changed water providers as part of a consolidation project, in other words, were served by a *consolidated* system.

Of the 229 cases we identify, 28 were managerial consolidations, the remaining 180 were physical consolidations. Our data set consists of only 2 mandatory consolidations (Pratt MWC and Ceres West MHP) with the remainder being voluntary consolidations.

Drivers of consolidation

The SWRCB has publicly available information on factors driving or incentivizing consolidation in 198 of these cases. Grouping this descriptive information into categories, we find that water quality concerns are by far the most common reason for consolidation (104 cases). Table 1 below provides frequencies for all five categories, none indicates that no driving factors or issues were listed. "Sustainability" in turn indicates that the reasons given were pro-active, e.g., reliance on a single source. Capacity indicates source capacity whereas TMF capacity indicates technical, managerial and financial capacity.

	#
Capacity	5
Disaster	8
Multiple	18
None	53
Quality	104
Sustainability	3
TMF Capacity	7

Characteristics of all consolidated systems

As preciously mentioned, 517985 Californians were served by a water system that has consolidated since the start of 2015. The mean population served by one of these systems is 2272 with a minimum of 0 (as listed in SDWIS data) and maximum of 120900. The median population served, however, is 124 indicating that the vast majority of consolidated systems are very small. 125 of these systems are Community Water Systems (CWS), 2 were state small water systems and 2 were domestic well communities. The remainder are a mix of NC and NTNC systems. 190 of these systems relied on groundwater as their primary source, another 32

relied on surface water (6 systems lack data on source water).

Characteristics of consolidated Community Water Systems

Among just the consolidated systems that were CWSs, these statistics are as follows.

Count	Population_mean	Population_median	Population_min	Population_max
125	3963.36	175	0	120900

99 of these systems relied on groundwater as their primary source, another 26 relied on surface water.

These systems, in turn, represent 15 different institutional/governing types (See Dobbin & Fencl 2021). The most common type is Mobile Home Parks followed by IOUs and "Private (other)" systems, representing non IOU private systems that could not readily be identified as a mutual water company, homeowners association or mobile home park.

Institutional_Type	Freq
MHP	30
IOU	25
Private (other)	22
MWC	13
CSA	8
County Water District	6
CSD	6
City	3
Federal	2
MWD	2
Special act district	2
State	2
Water District	2
ID	1
School	1

Characteristics of systems "receiving" CWSs in consolidations

Among the systems that were receiving systems in the above cases of CWS consolidation, we find similar diversity in institutional types, IOUs are the most common receiving system type and City's the second most common. Overall, 14 different institutional types acted as receiving systems over the studied period.

Institutional_Type	Freq
IOU	37
City	28
County Water District	14
CSD	14
Special Act District	10
PUD	7
Water District	5
Irrigation District	2
MWC	2
MWD	2
CSA	1

Institutional_Type	Freq
Private (other)	1
School	1
State	1

Governance change as a result of consolidations

Using this information about consolidated and receiving system types, then, we are able to identify how CWS governance is changing in the state as a result of consolidations. In total, CWS consolidations represent 47 distinct governance changes, the four most common of which are displayed in the table below.

Change from, to	#
IOU , IOU	21
MHP , City	11
Private (other) , City	9
MHP , CSD	7

Appendix

Institutional types for all consolidated water systems (not just CWS):

Consolidated_Inst_Type	Freq
Private (other)	85
MHP	35
IOU	26
School	20
MWC	13
CSA	8
State	7
County Water District	6
CSD	6
City	5
Federal	4
County (other)	2
Domestic wells	2
MWD	2
Special act district	2
Water District	2
ID	1
Recreation and park district	1
State small	1

Institutional types for all receiving water systems (not just those receiving CWS systems):

Institutional_Type	Freq
City	66
IOU	47
County Water District	25
CSD	20

Institutional_Type	Freq
PUD	15
Special Act District	13
Irrigation District	8
MWC	5
Water District	5
Private (other)	4
State	4
CSA	3
MWD	3
PA	2
School	2
Tribal	2
Federal	1
JPA	1
Missing	1
RCD	1

Top ten governance change pathways for all consolidations cases (not just CWS)

Change from, to	#
Private (other) , City	40
IOU , IOU	21
MHP , City	11
Private (other) , IOU	11
Private (other) , PUD	9
MHP , CSD	8
City , City	5
MHP , IOU	5
CSA , County Water District	4
MWC , City	4
MWC , IOU	4
Private (other) , County Water District	4
Private (other) , CSD	4
Private (other) , Irrigation District	4
State , State	4