




James Fischer, P.E.






SSMP AUDITS Training



1



1. About

2. Learning Objectives

3. Sample Content


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2

1. About

Standards and Resilience








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1. About

Standards and Resilience

SSMP PROGRAM AUDITS (Provision D.13(x)) – Order 2006-003-DWQ

As part of the SSMP, the Enrollee shall **conduct periodic internal audits**, appropriate to the size of the system and the number of SSOs.

- **At a minimum**, these audits must occur **every two years** and a report must be prepared and kept on file.
- This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.




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1. About

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Sewage Spills

Navigation: Sewage spills by Regional Board | Size, location, type and year/Quarter/Year of spills | Table by Region | WQID Total Spills and Volume | WQID Spills and Volume by Year Graph | WQID Spills and Volume by week! | Animation Spills by Year | Spills by County and year Animation





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Number of Sewage Spill Events, Region: All

Year	Category 1	Category 2
2007	1,548	766
2008	1,055	5,300
2009	1,110	5,145
2010	797	4,413
2011	782	4,347
2012	829	4,105
2013	789	4,096
2014	835	4,129
2015	848	3,617
2016	876	3,088
2017	3,023	2,919
2018	3,481	2,474
2019	3,103	2,203
2020	3,103	771

Spill Volume by Year (Gallons), Region: All




Year	Yes	No
2007	15,084,024	6,607,476
2008	1,963,781	23,107,028
2009	1,963,781	23,101,413
2010	8,023,590	7,487,515
2011	15,173,789	25,940,587
2012	16,607,769	14,601,225
2013	16,607,769	14,601,225
2014	16,607,769	14,601,225
2015	16,607,769	14,601,225
2016	16,607,769	14,601,225
2017	16,607,769	14,601,225
2018	16,607,769	14,601,225
2019	16,607,769	14,601,225
2020	16,607,769	14,601,225

5

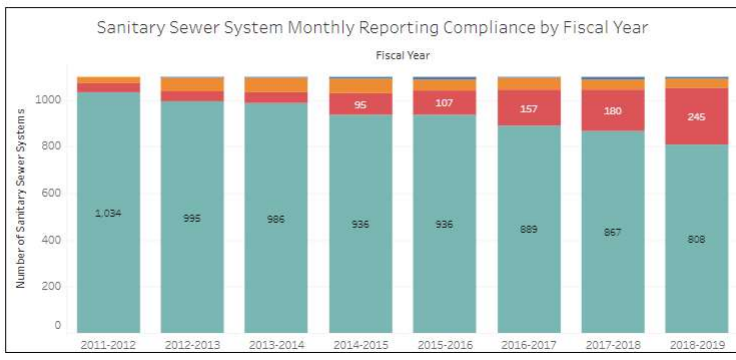
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SSO Monthly Reporting Compliance and Total SSOs by FY by Eric Maag

Sanitary Sewer System Monthly Reporting Compliance by Fiscal Year



Fiscal Year	In Compliance	Failed to report	Contradictory rep...	Both failed to rep...
2011-2012	1,034	0	0	0
2012-2013	995	0	0	0
2013-2014	986	0	0	0
2014-2015	936	95	0	0
2015-2016	936	107	0	0
2016-2017	889	157	0	0
2017-2018	867	180	0	0
2018-2019	808	245	0	0

Regional Board Office

- (All)
- 1
- 2
- 3

WQID



- (All)
- 1SS010001
- 1SS010003
- 1SS010004

Compliance/Noncompliance

- Both failed to rep...
- Contradictory rep...
- Failed to report
- In Compliance

Regional Board Office

- (All)
- 1
- 2

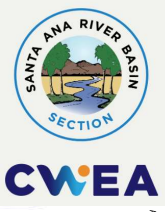




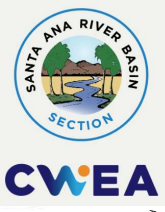
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3

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SSO Enforcement Response by Rafael Maestu

SSO Receiving Enforcement Category of Spills: All Years: 2013, 2014, 2015 and 5 more



Enforcement Highest Level

- L1
- L2
- No Enforcement

Enforcement Highest Level: [All]



Year of Occurred On: [Multiple values]

Region: [CA]

Spill Type: [Oil]

Year of Occurred On	Category 1			Spill Type / Enforcement Highest Level Category 2			Category 3		
	L1	L2	No Enforcement	L1	L2	No Enforcement	L1	L2	No Enforcement
2013	114	49	456	15	2	151	29	140	3,791
2014	63	45	288	1	1	130	1	20	2,352
2015	42	38	353			184	6		3,587
2016	55	34	437	8	1	185	6	1	3,954
2017	137	32	597	4	1	177	3	1	2,483
2018	29	2	411	1		175	1		2,459
2019	29		614	1		172			2,251
2020			175			42			801
Grand Total	469	200	3,331	30	5	1,216	46	162	20,768

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CARAMEL AREA WASTEWATER DISTRICT
SINCE 1908

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CWEA



Carmel Area Wastewater District

What are we up to? Manhole Inspections and Pretreatment
By Rachél Lather



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CAWD WEB GIS

GIS Maps and Apps

Benefits of GIS APPS

Carmel Area Wastewater District (CAWD) uses as a Web GIS Portal built on the ESRI GIS Framework. The CAWD GIS Hub gives users access to important Geographic Information Systems (GIS) that may be used for planning and compliance reporting.



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Basic Info Needed to Identify poor condition manholes

- Depth of manhole
- Diameter
- Material type
- Condition-unsafe, poor, fair, good excellent
- Photo documentation



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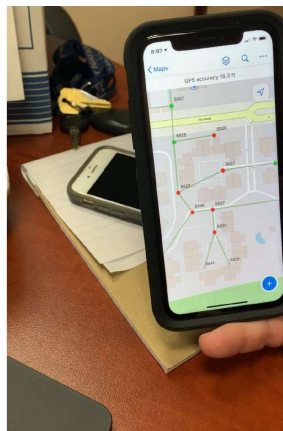
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Manhole Inspection

- Information from Manhole Inspections was displayed to show system conditions.
- A dashboard and infographics were used for reporting to track progress.
- Can give access to bidders to see manhole conditions prior to bidding.

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Download to Excel and Sort

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Manhole Condition results Dashboard

Daryl Lauer
TIGEO

Summary

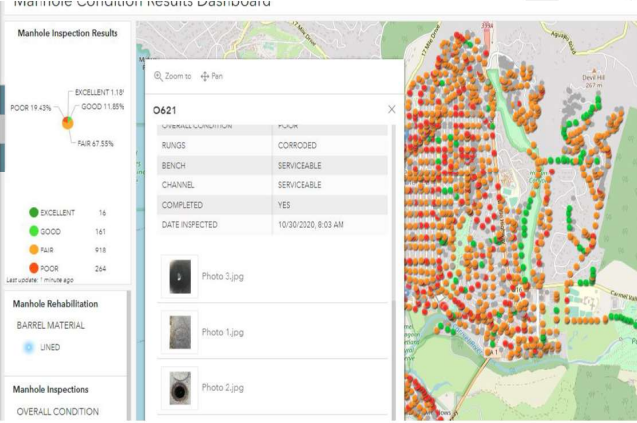
Manhole Condition Results Dashboard

[View Full Details](#)

Details

- Dashboard Dashboard
- July 29, 2021 Date Updated
- July 29, 2021 Published Date
- Owner Only you can see this content
- No License Provided Request permission to use


Metrics



CONDITION	COUNT
EXCELLENT	16
GOOD	161
FAIR	918
POOR	254



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Posted Project

Notice is hereby given that sealed proposals will be received by the District Board, Carmel Area Wastewater District, at the District office, 3945 Rio Road, until

10:00 A.M. Tuesday, JULY 26, 2022

at which time they will be publicly opened and read for performing the work as follows:


22-23 MANHOLE REHABILITATION PROJECT

The results of the bidding will be reported to the District Board within thirty (30) days of the date of the bid opening at which time if bids are found to be acceptable by the District Board, written notice of award will be given to the lowest responsive and responsible Bidder. However, said District Board reserves its right to reject any or all bids, to waive irregularities of any bids or to re-advertise for all or any part of the work contemplated.



No bidder shall withdraw his bid for a period of sixty (60) calendar days after the date set by the Board for the opening thereof.

Specifications and proposal forms may be secured at no charge by emailing the District's Principal Engineer at downstream@cawd.org and requesting the documents.

Post



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PRETREATMENT ORDINANCE

CREATED AND NEXT STEPS



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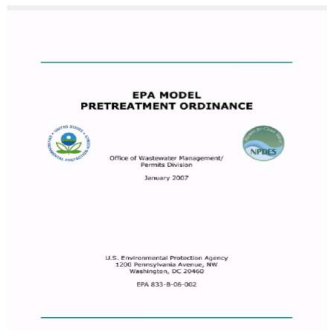
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OBSTACLES TO DEVELOPING & IMPLEMENTING ORDINANCE

- Pretreatment Committee Meetings- 2 Board members Source Control Manager, Treatment Plant Superintendent, and Principal Engineer
- Pretreatment Managed by Treatment Plant- pros/cons
- Principal Engineer-not a pretreatment expert writing ordinance
- Administrative Penalties Ordinance Approved in 2019
- Conflict between treatment and collections goals for pretreatment
- Board reluctance to punish businesses
- City of Carmel-by-the-Sea refusal to allow Grease Interceptor in ROW



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- Needed to improve communications/data regarding FOG issues
- 90% of pipes have been video'd and uploaded to t4 Underground
- Sorting FOG Locations and Viewing to See Restaurant Lateral



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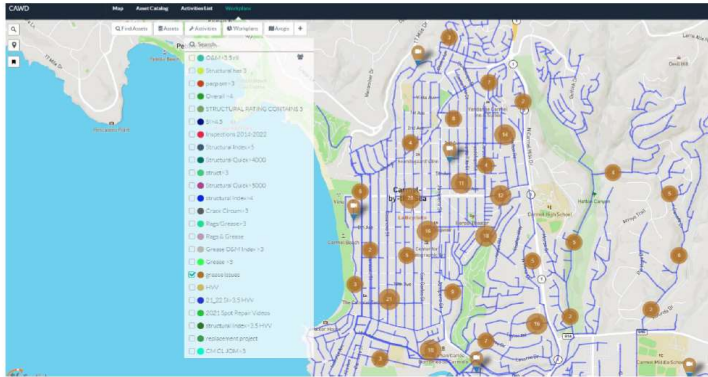
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- To analyze which restaurants are discharging grease, data for each line segment in CAWD was totaled for all the downstream line segments associated with each individual restaurant. This provided a unique "grease score" for each restaurant.
- The restaurants with a "grease score" greater than 1 standard deviation above the mean were identified for further investigation. Of the approximately 100 restaurants in the District, 30 were determined to be likely sources of grease observed in the pipelines (i.e. these 30 restaurants had a grease score of greater than one standard deviation above the mean). These restaurants were called "potential problem restaurants".



Grease Score Distribution	Number of Restaurants
-2 STD Dev	5
-1 STD Dev	10
Mean	55
1 STD Dev	15
2 STD Dev	10
More	5



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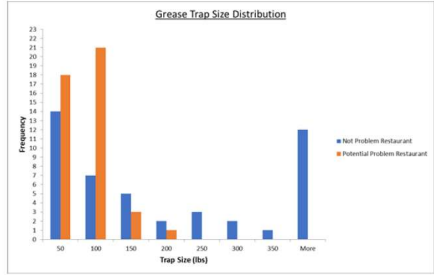
23

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- Grease trap size for each restaurant was also compared to the grease score for each restaurant.
- The analysis of grease trap size and downstream grease score showed that the majority of "potential problem restaurants" with a grease trap size less than 150 lbs were on the list.
- Only 4 of the identified "potential problem restaurants" had grease trap sizes of 150 lbs or larger.



Trap Size (lbs)	Frequency (Not Problem Restaurant)	Frequency (Potential Problem Restaurant)
50	14	18
100	7	22
150	4	5
200	2	1
250	2	0
300	1	0
350	1	0
More	12	0



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Next Steps- Document

- PRETREATMENT STAFF- Inspect 30 restaurants that data indicates have serious grease issues and use CAWD push camera to video lateral.
- COLLECTIONS- purchase push camera for laterals, provide training for Pretreatment staff to video restaurant laterals.
- COLLECTIONS ENGINEER – Capture videos of sewer for each restaurant.
- Provide Board Report with Findings and implement enforcement activities.
- Require minimum Grease Interceptor Size of 150 lbs. for restaurants unless really small....and low grease potential.



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SHARE IDEAS FOR FURTHER WORK

- I am not a pre-treatment expert so I have lots to learn....
- We used Six Sigma training to utilize process experts to develop the goals and measure effectiveness
- Questions and Ideas are Welcomed!!



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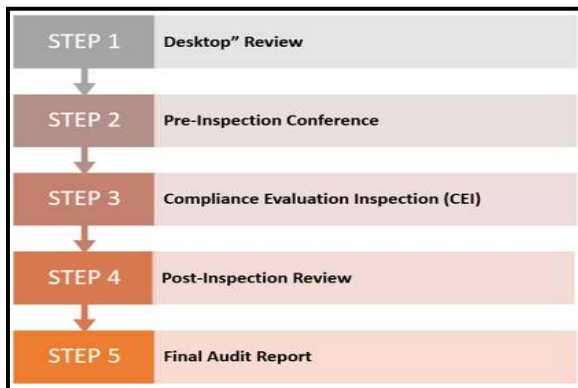
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Sewer System Management Plan (SSMP)
AUDIT (2017-2022)



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32

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SSMP Audit 2017-2022 (West Bay Sanitary District) CONFIDENTIAL DRAFT 4/29/2022 Page 2/XX

Table of Contents	
1. EXECUTIVE SUMMARY	6
2. REGULATORY BACKGROUND	7
3. COLLECTION SYSTEM INFORMATION	8
4. SPILL TRENDS AND COMPLIANCE BENCHMARKS	10
5. AUDIT APPROACH	
6. PREVIOUS AUDIT REVIEW	
7. AUDIT FINDINGS	
8. AUDIT CONCLUSIONS	
9. LIST OF APPENDICES.....	

9. LIST OF APPENDICES	
APPENDIX 1 – Compliance Evaluation Inspection Report	
APPENDIX 2 – Audit Findings and Best Practice Recommendations	
APPENDIX 3 – SSMP Performance Findings	
APPENDIX 4 – List of all Certified SSOs in CIWQS Reported by the District (2007 to present)	
APPENDIX 5 – Example Annual District Performance Report	
APPENDIX 6 – Detailed Key Performance Metrics, KPIs, and Compliance/Resilience Indicators	

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Collection Summer Meeting 2022

“The SSMP Audit shed light on many existing successful work programs in place by the District. When comparing the District SSO metrics performance with other collection systems in the San Francisco Regional Water Board area and throughout the State, the District performs at the top.”

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Audit Components and Procedures	
Audit Standards	Information
1. Pre-Inspection Review	<ul style="list-style-type: none"> Utilize Compliance Inspection Guidelines for inspectors for reviewing District existing practices, approaches, SSMP, SSMP audit, records
2. Pre-Inspection Video Conference	<ul style="list-style-type: none"> Review Pre-Inspection Questionnaire answers
3. Compliance Inspection Conference	<ul style="list-style-type: none"> Conduct inspection to recommended standards
4. Post-Inspection Conference	<ul style="list-style-type: none"> Conduct conference to recommended standards and solicit additional information for completion of Audit.
5. Post-Inspection review	<ul style="list-style-type: none"> Review development of findings.
7. Recommendations	<ul style="list-style-type: none"> Finalize recommendations report.
6. Findings	<ul style="list-style-type: none"> Finalize findings for report.
FINAL REPORT	<ul style="list-style-type: none"> SSMP Audit complete/update existing SSMP.



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36



37

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WBSD Audit Dashboard

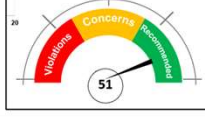
Category	Score
1. Goals	0
2. Organization	3
3. Legal	0
4. O/M	2
5. Design	0
6. OERP	1
7. FOG	1
8. SECAP	2
9. Monitoring	3
10. Audits	4
11. Communication	1
12. Implementation	1
13. Training/SOPs	11
14. Discharges	1
15. Notification	1
16. Reporting	8
17. Monitoring	1



0




13





51

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Best Practices

- Successful work programs in place.
- Dedication to high spill reduction performance.
- Dedication to continuous improvement.
- Spill metrics and other benchmarks show District near top in region and state.








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Areas of Concern

- Additional documentation into next SSMP
- Enhance existing training
- Enhance existing Field Forms
- Enhance Lift/Pump Station Readiness




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Agency: West Bay Sd REGION: 2

Count of SPILL TYPE SPILL VOL Count of SPILL VOL REACH SURF SPILL VOL REACH SURF SPILL VOL REACH LAND

275 97006 251 59842 4669

Spill Volume

Spill Volume: 4290000





Count of CAT by Year and CAT

Count of CAT by Year and CAT

Agency: SSO Rate Per 100 Miles by Year

Region: SSO Rate Per 100 Miles by Year




State: SSO Rate Per 100 Miles by Year

41





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CAT 1	<p>Agency: SSO Rate Per 100 Miles by Year</p>	<p>Region: SSO Rate Per 100 Miles by Year</p>	<p>State: SSO Rate Per 100 Miles by Year</p>
CAT 2	<p>Agency: SSO Rate Per 100 Miles by Year</p>	<p>Region: SSO Rate Per 100 Miles by Year</p>	<p>State: SSO Rate Per 100 Miles by Year</p>
CAT 3	<p>Agency: SSO Rate Per 100 Miles by Year</p>	<p>Region: SSO Rate Per 100 Miles by Year</p>	<p>State: SSO Rate Per 100 Miles by Year</p>


TAKEAWAY: WBSD number of spills dramatically reduced

42

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WBSD Spills (SSOs), 2007-2021



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
# of Cat 1	2	2	5	6	0	0	0	3	0	0	1	0	0	0	0
# of Cat 2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
# of Cat 3	44	53	43	35	16	11	10	11	4	9	3	4	4	0	3

TAKEAWAY: WBSD spills dramatically reduced




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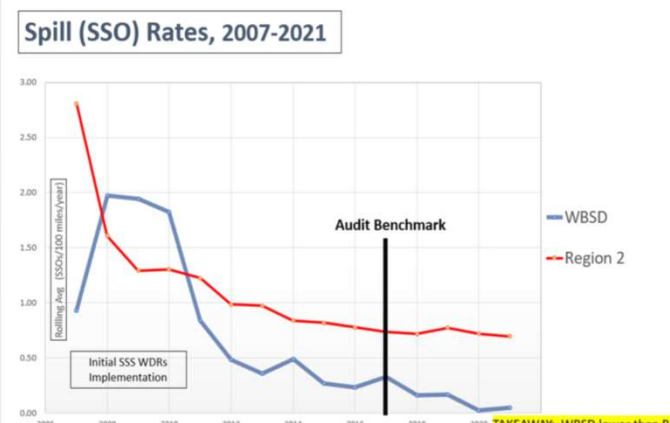
43

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Spill (SSO) Rates, 2007-2021




TAKEAWAY: WBSD lower than Region past 10 years

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Spill (SSO) Rates, Region 2 Agencies

TAKEAWAY: WBSD lower than many others in Region







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WBSD Cleanings/Inspections, 2007-2022

TAKEAWAY: WBSD maintains strong benchmarks







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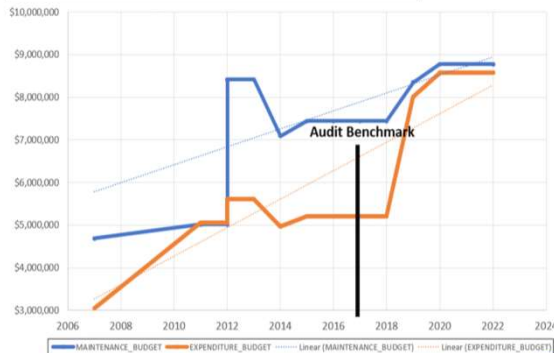
46

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WBSD O/M + CIP Budgets, 2007-2022



TAKEAWAY: WBSD maintains strong funding

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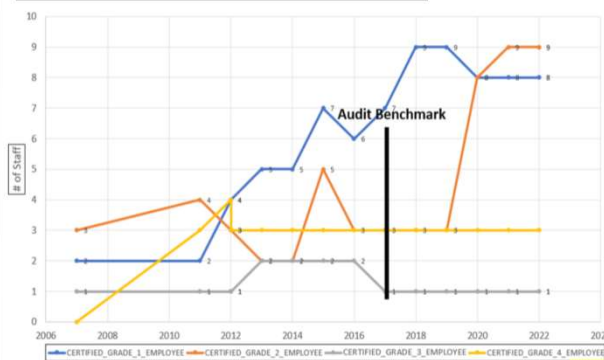
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WBSD Certified Staffing, 2007-2022



TAKEAWAY: WBSD increases cert. staffing

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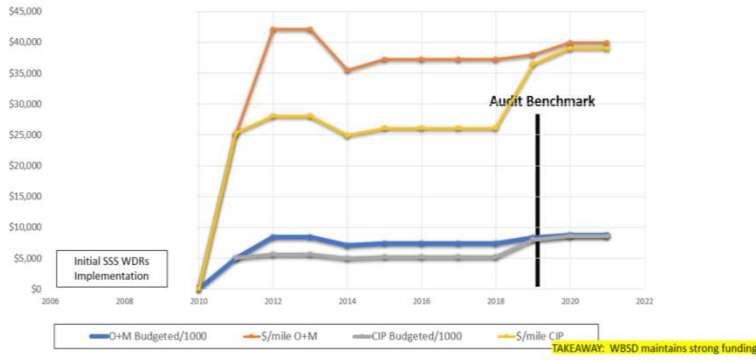
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WBSD Funding, 2007-2022



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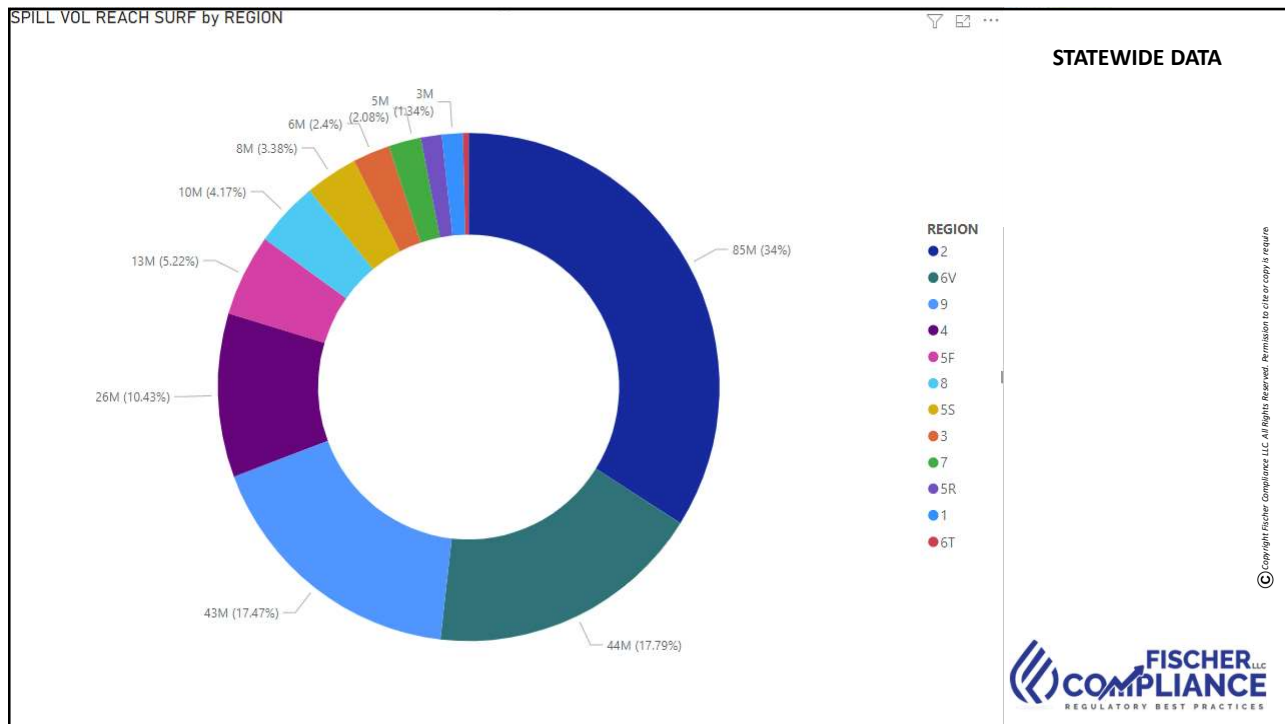
COLLECTION SYSTEM BENCHMARKING



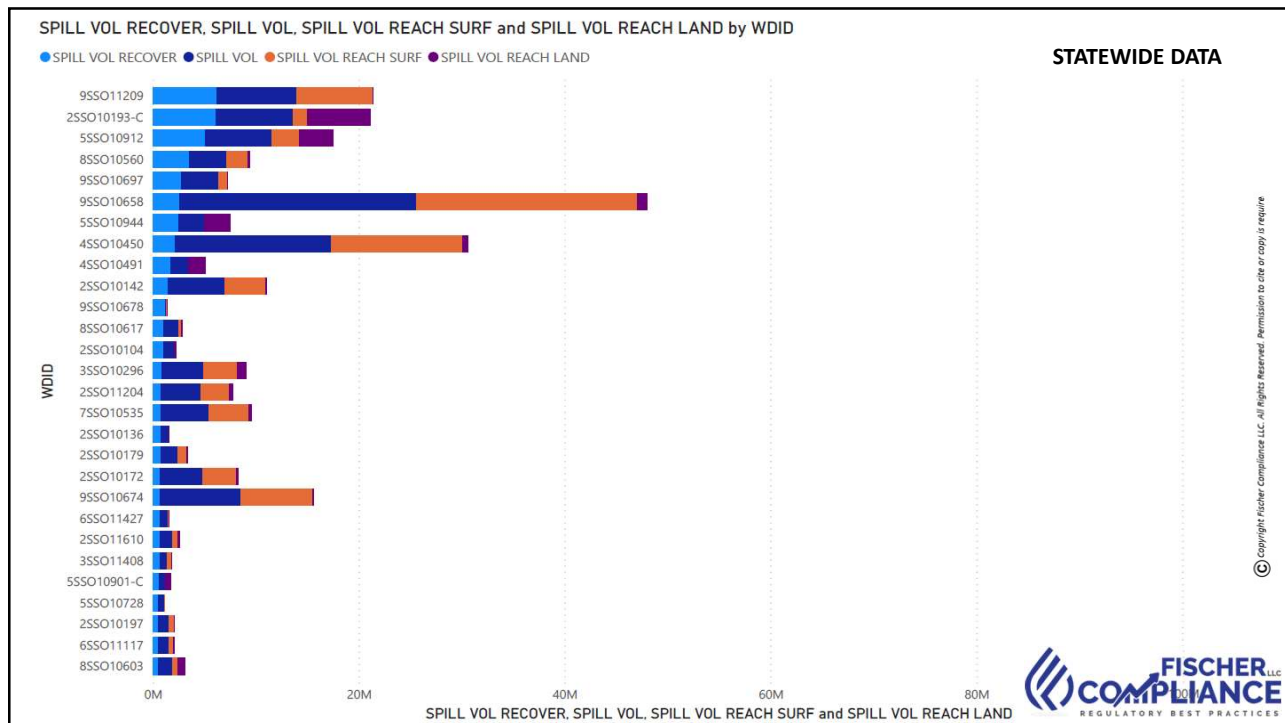
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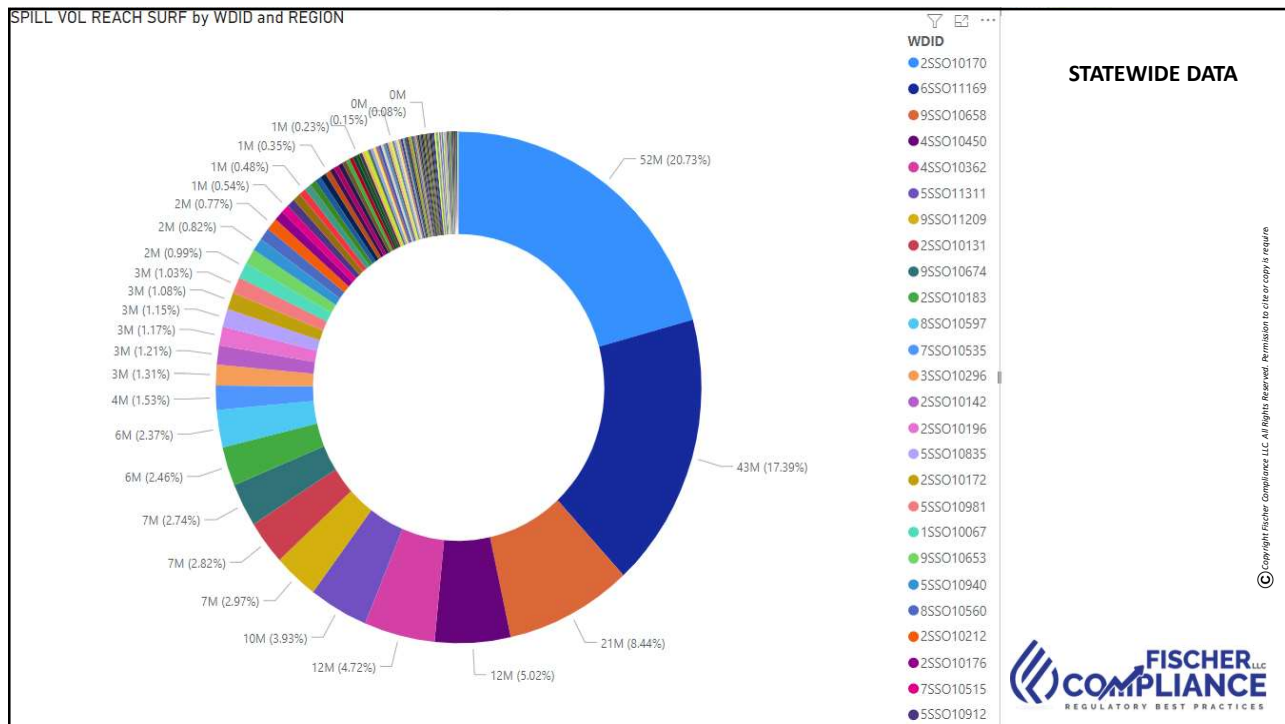
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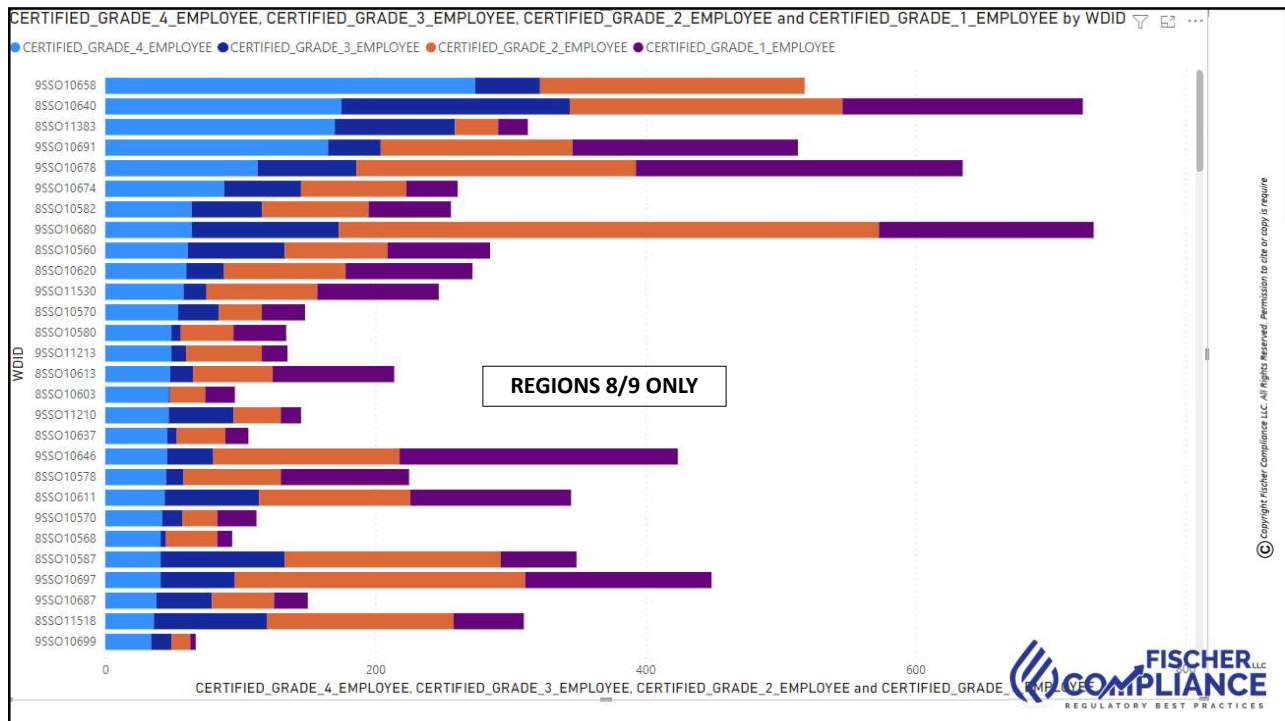
51



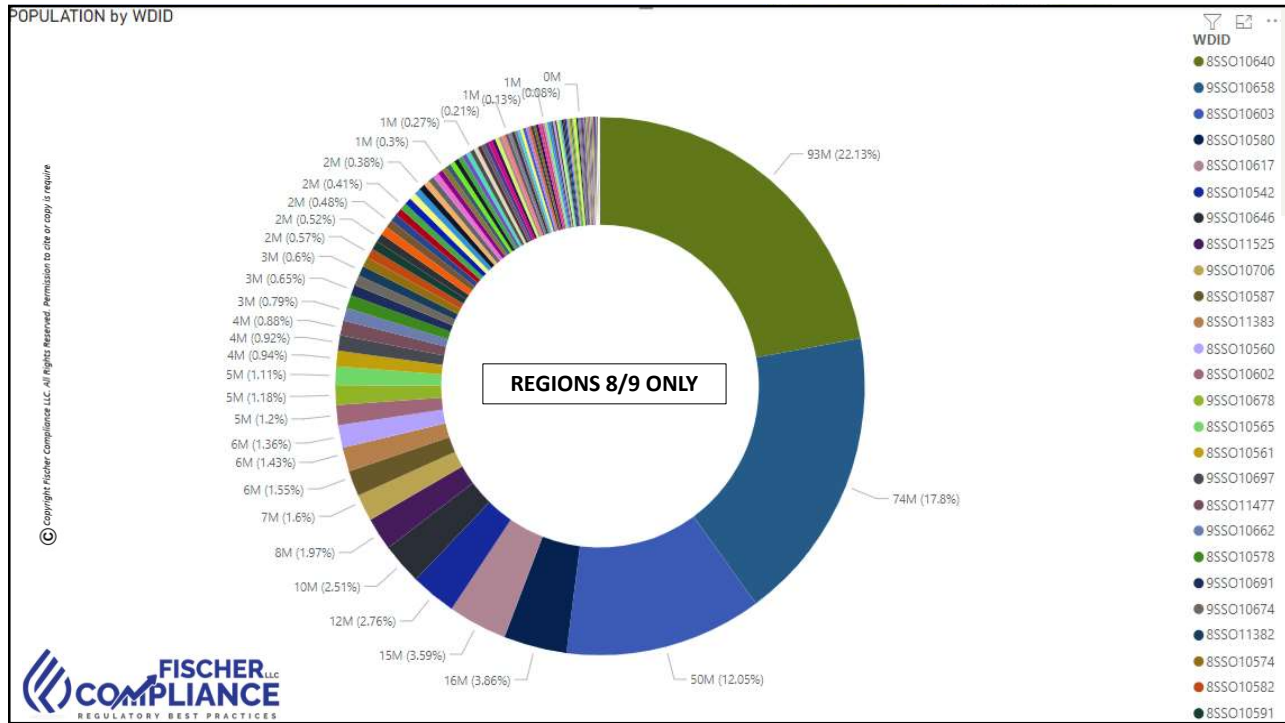
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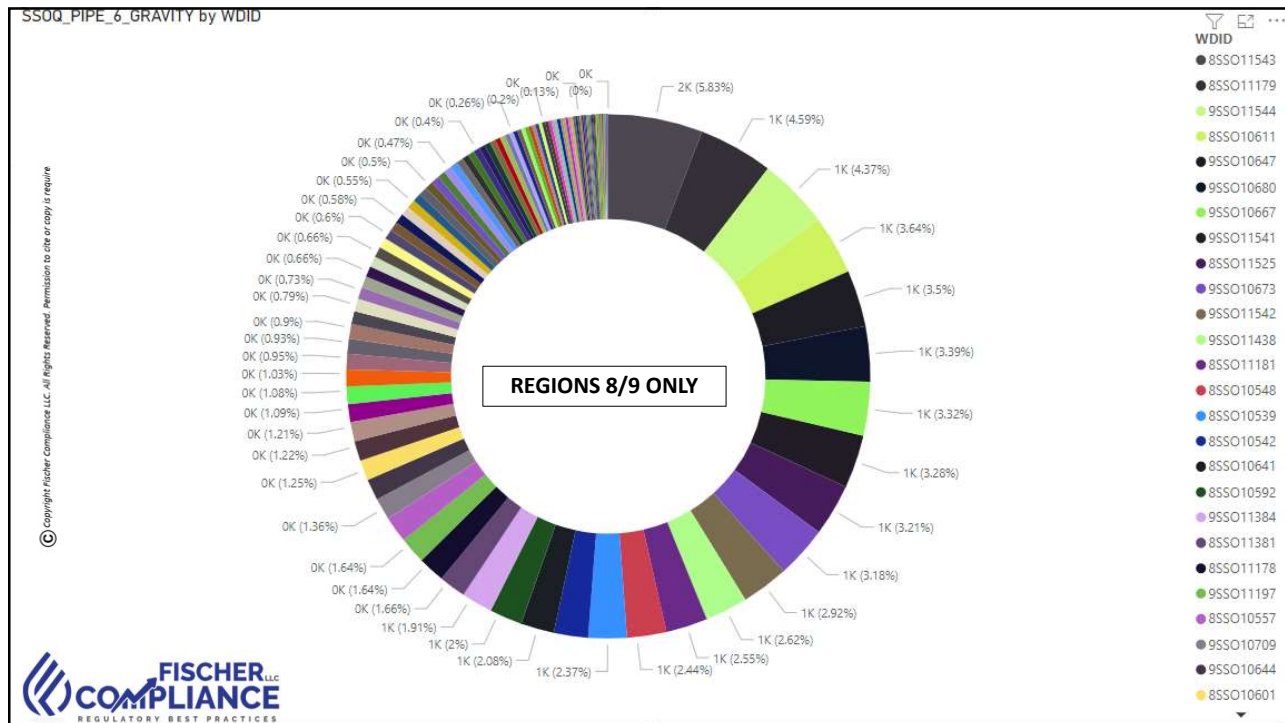
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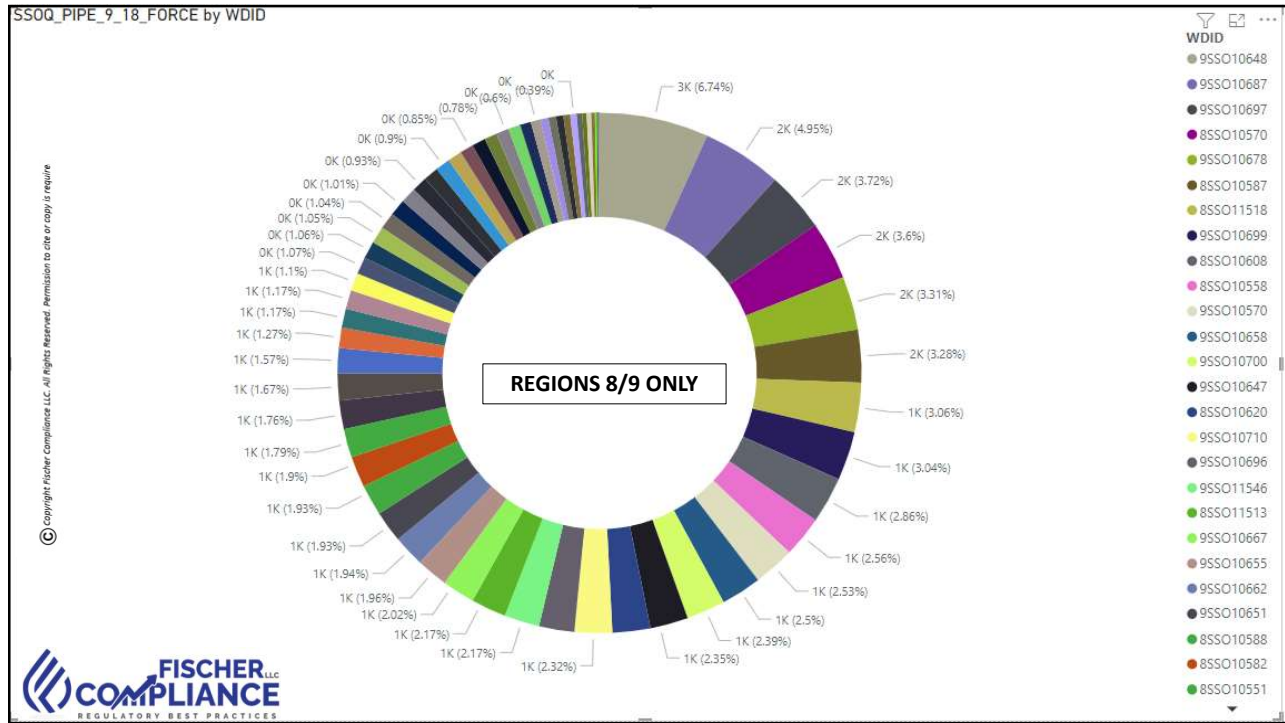
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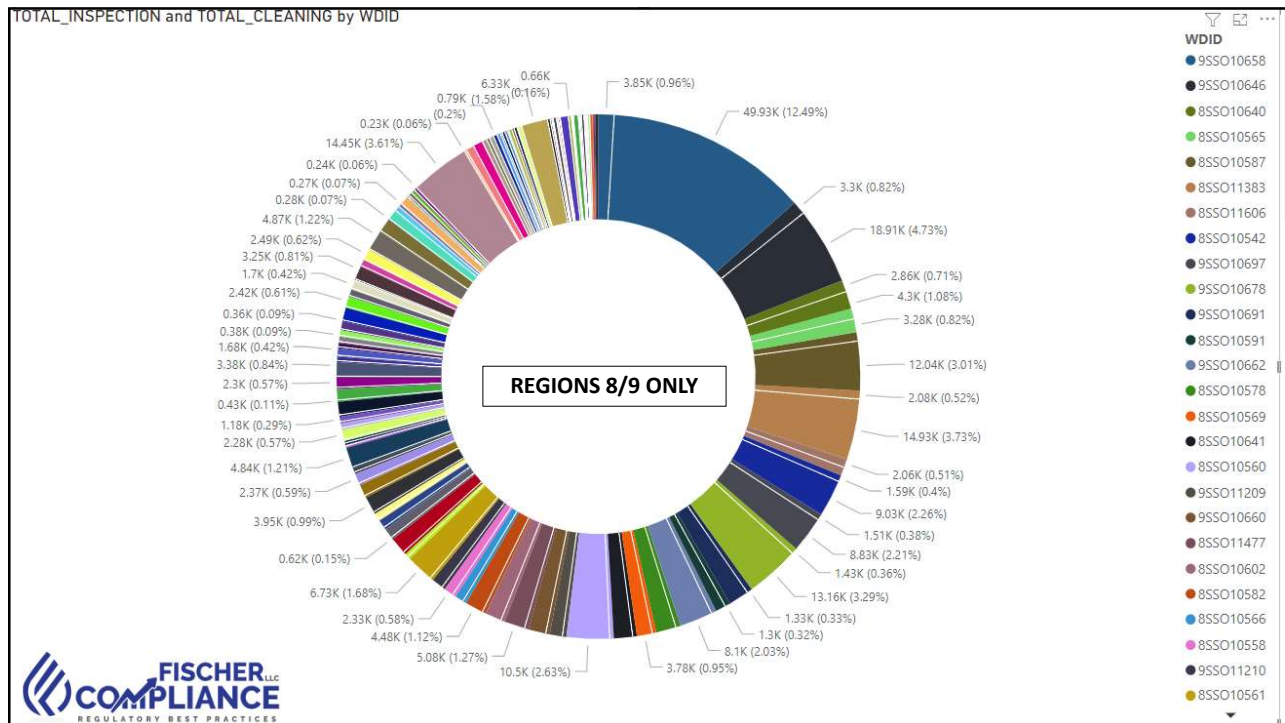
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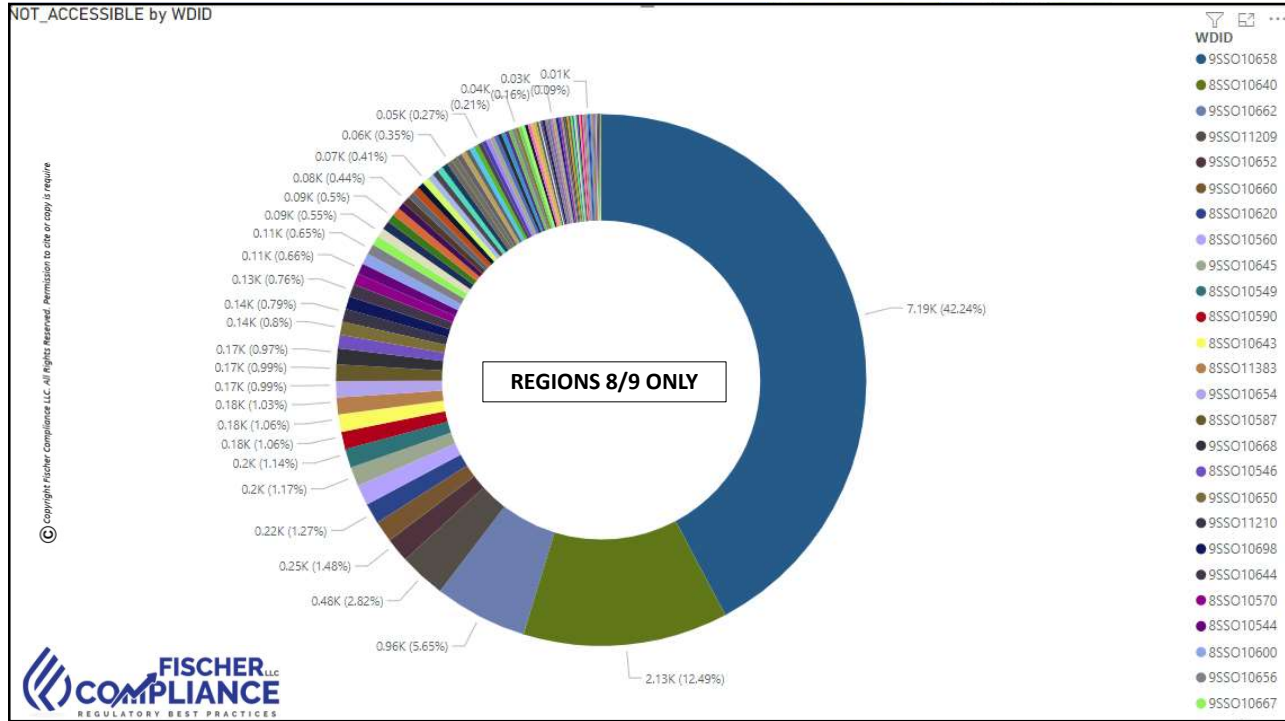


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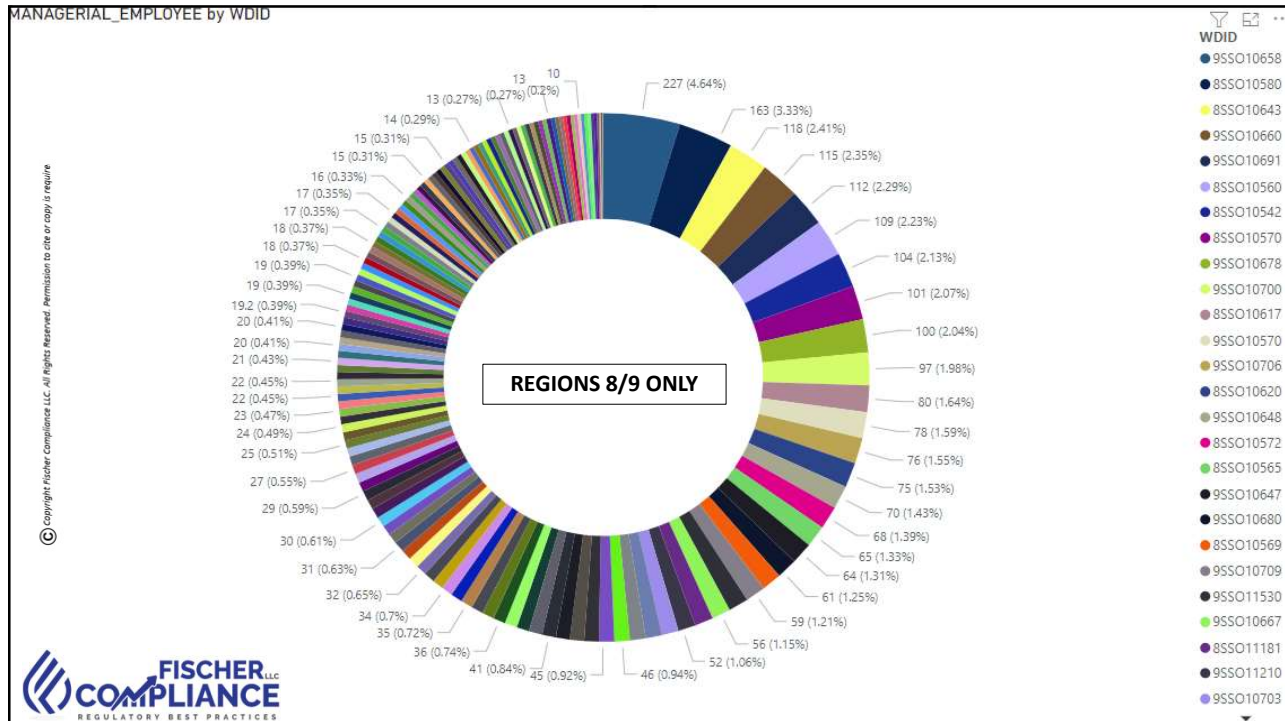
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NOT_ACCESSIBLE by WDID

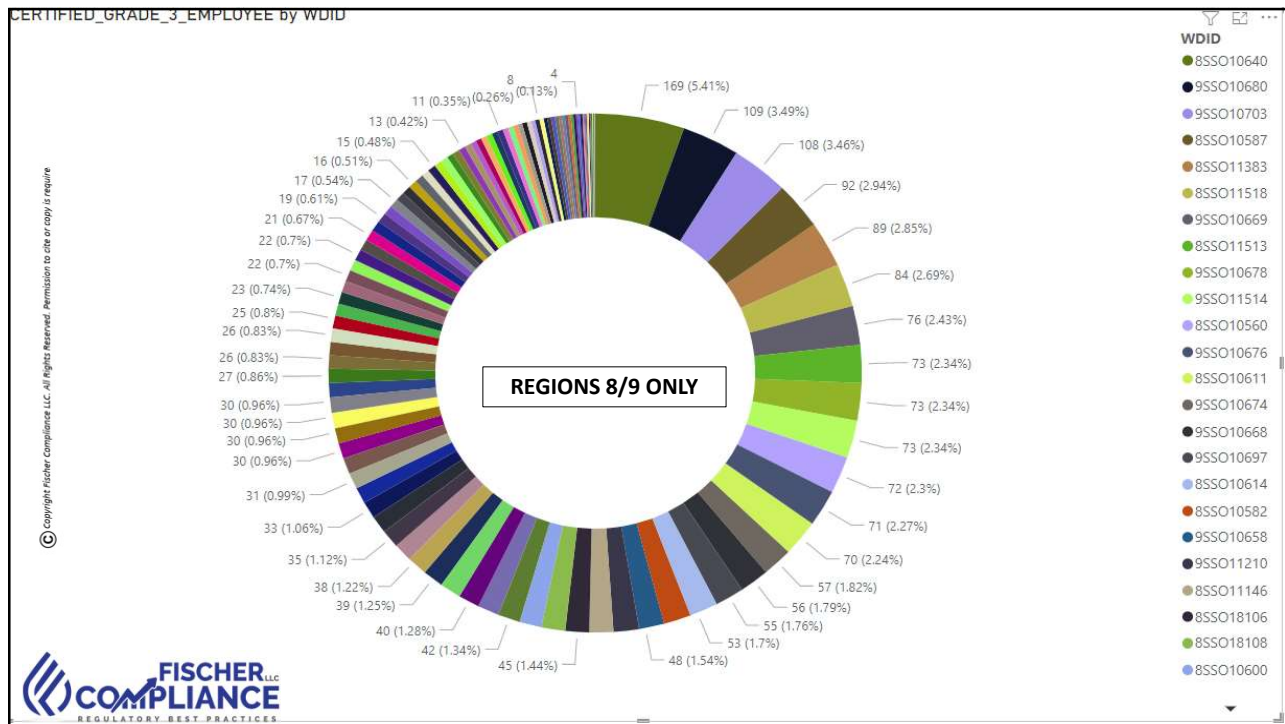


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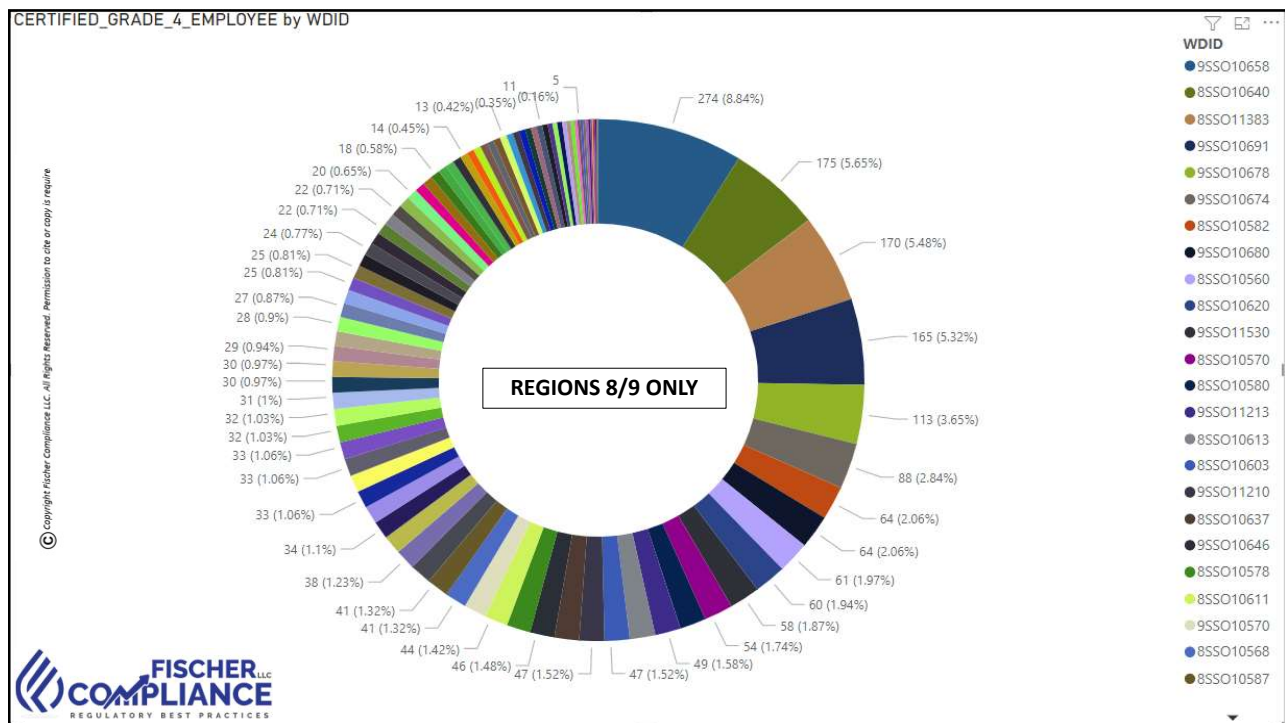
MANAGERIAL_EMPLOYEE by WDID



60




61







62

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Services


- Sewer System Management Plan (SSMP) Audits
- Sewer System Management Plan (SSMP) updates
- Compliance Evaluation Inspections utilizing USEPA recommended standards with a credentialed inspector.



James Fischer

SSS WDRs Meeting

🕒 1 hr



Select a Date & Time

July 2022

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Additional Technical Services

- Benchmarking Reports
- Onsite Trainings
- Lift/Pump Station/Force Main Compliance Inspections and Emergency Response Plans

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