

## Summer 2015 Issue

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### SCRD State Program Site Data through June 2015 (Cumulative)

	Program Sites	Assessments Initiated	Assessments Completed	Remediation Initiated	Remediation Completed	Closed Sites
Alabama	110	22	14	1	0	7
Connecticut <sup>^</sup>	82	19	8	35	15	5
Florida	1,422	367	338	221	156	162
Illinois	788	788	601	105	44	435
Kansas	160	78	69	45	24	14
Minnesota <sup>*^</sup>	196	193	193	193	152	152
Missouri	42	42	20	12	8	20
North Carolina	361	361	228	122	62	51
Oregon <sup>^</sup>	53	53	28	24	18	18
South Carolina	408	290	35	15	4	118
Tennessee	112	63	62	62	50	50
Texas	254	252	220	58	10	56
Wisconsin	230	196	132	81	39	83
<b>Totals</b>	<b>4,218</b>	<b>2,724</b>	<b>1,948</b>	<b>974</b>	<b>582</b>	<b>1,171</b>

\*represents all dry cleaner sites in MN programs (Brownfields, Superfund, RCRA), not just reimbursement program

<sup>^</sup>no update since December 2013

### SCRD Committee Updates

#### **Administrative Subgroup & Project Management/Technical Support Subgroups**

Some members of each of these subgroups continue examining the cost to closure for remediated sites and identify ways to make best use of data. A case study of Florida's closed sites follows.

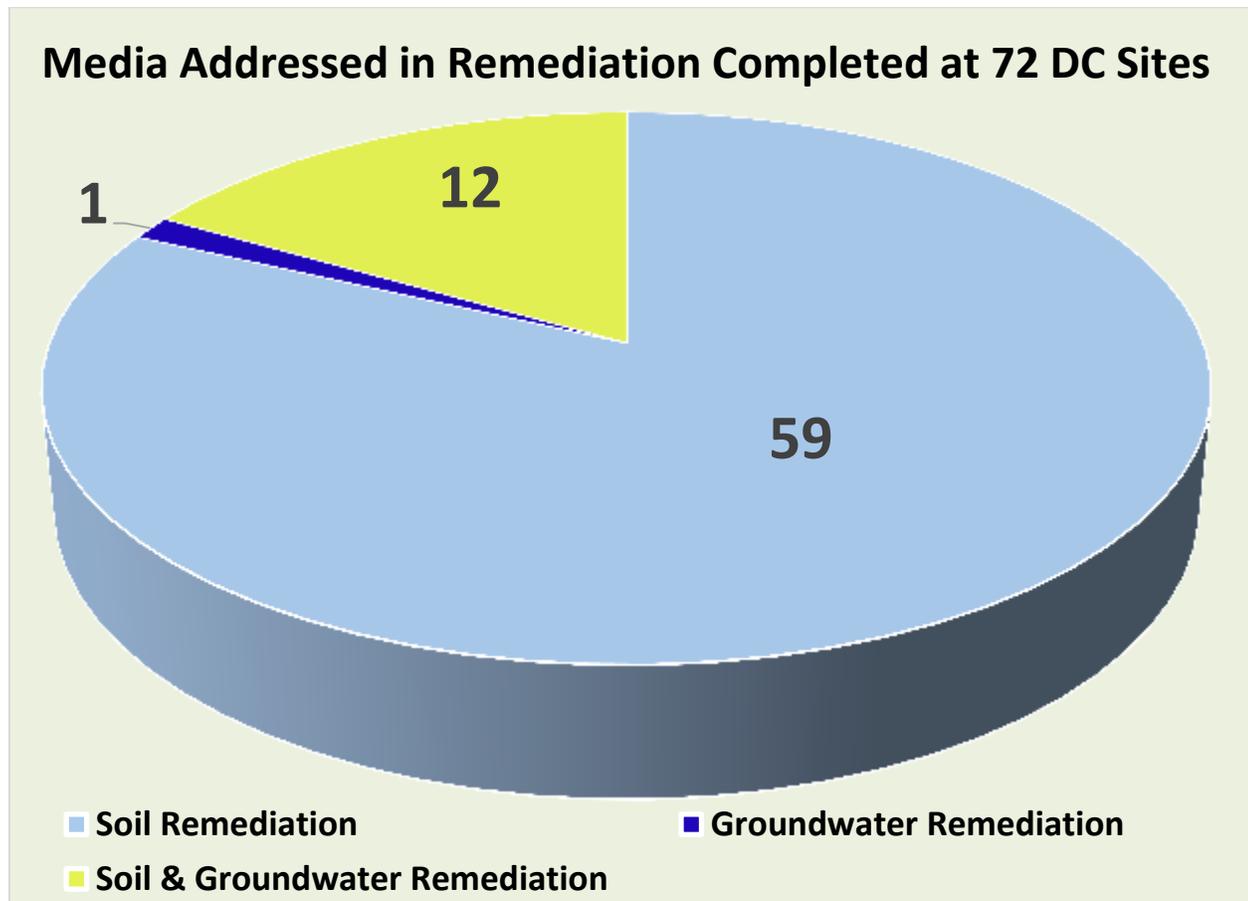
#### **Remedial Closures – Florida Drycleaning Solvent Cleanup Program**

To date, the Florida Drycleaning Solvent Cleanup Program has closed at total of 162 sites. These sites were closed under one of three methods: *Assessment Closure*, where no contaminants were detected above cleanup target levels during the site assessment; *Monitored Natural Attenuation Closure*, where groundwater monitoring was conducted following site assessment until cleanup target levels were achieved; and *Remedial Closure*, where active remediation was conducted and then groundwater monitoring was conducted until cleanup target levels were met.

## Types of Site Closures

Assessment Closures	58 Sites – 35.8% of site closures
Monitored Natural Attenuation Closures	32 Sites – 19.7% of site closures
Remedial Closures	72 Sites – 44.3% of site closures

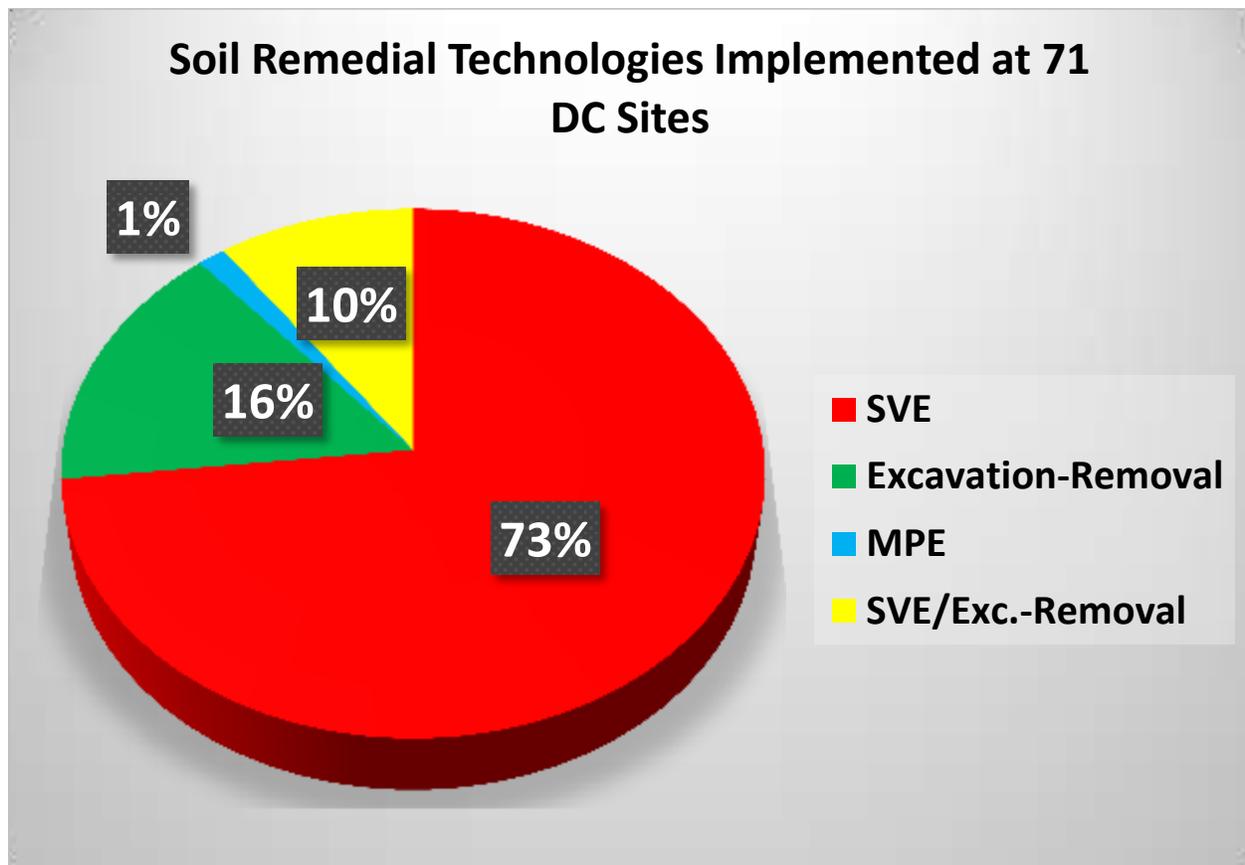
Sites closed through active remediation can be divided into three categories based on which media was addressed: soil remediation, groundwater remediation and soil and groundwater remediation.



### Soil Remediation

Soil remediation was conducted at 71 of the 72 sites. A thorough site assessment will generally find soil contamination at drycleaning sites. In Florida, approximately 75.5% of the drycleaning sites are located in shopping centers/strip malls. Most of the surface area of these properties is covered by buildings and pavement where there is little infiltration of rainfall and therefore limited flushing of contaminants from the soils. Exceptions are sites with permeable soils where the buildings that housed the drycleaning facilities have been razed or where solvent wastes were discharged to unpaved areas, sanitary sewers or storm sewers.

The soil remedial technologies utilized at the Florida sites included: soil vapor extraction, multi-phase extraction, excavation and removal. Excavation/removal includes excavation of contaminated soils via track hoes, backhoes, vacuum trucks and manual excavation. Excavation targets included soil beneath facility floor slabs, outside service doors, former locations of USTs and ASTs, sumps, storm drains and septic tanks/drainfields.



## Groundwater Remediation

Groundwater remediation was conducted at 13 of the 72 sites. Groundwater remedial technologies utilized included:

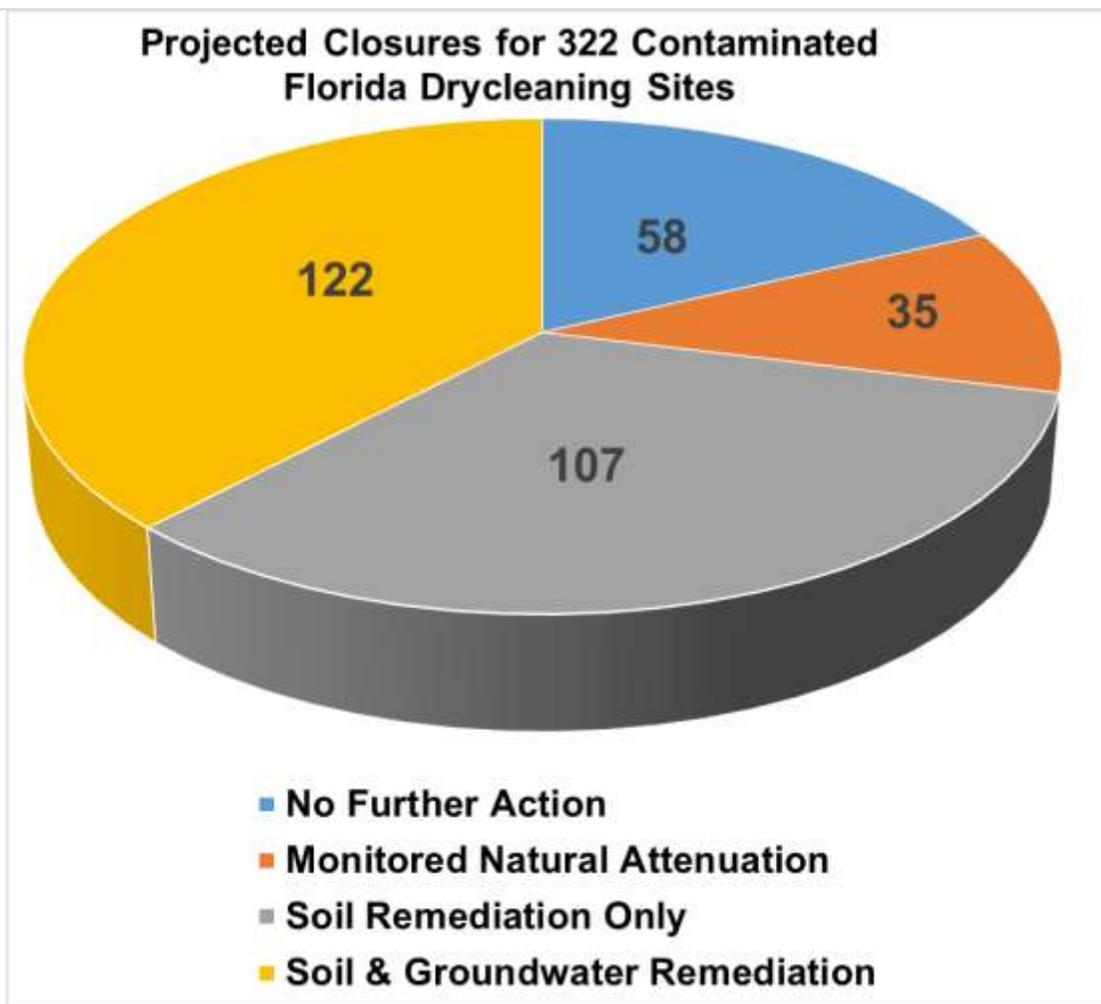
- Biostimulation: 6 sites
- Pump & Treat: 1 site
- Multiphase Extraction: 1 site
- Air Sparging: 1 site
- Nanno-Scale Zero Valent Iron: 1 site
- Pump & Treat & Chemical Oxidation: 1 site
- Pump & Treat & Biostimulation: 1 site

In general, anaerobic conditions exist in groundwater in Florida and in-situ biostimulation has been utilized at over 60 drycleaning sites in the Florida Drycleaning Solvent Cleanup Program to date. There are, however, areas in Florida where groundwater in surficial aquifers has a low pH that is not favorable for biodegradation of chlorinated solvents. Attempts to buffer the groundwater at some of these sites to conduct biostimulation have met with mixed results to date.

## Site Closure Times

The statistics for site closure times (the time from the initiation of contamination assessment work until the site is formally closed through the issuance of a Site Rehabilitation Completion Order) for the 72 site data set follow:

- Range: 10 months – 18.75 years
- Average: 7.8 years
- Median: 7.3 years



The longer closure times for this data set are generally associated with sites that were placed in groundwater monitoring early in the Program. As more experience has been gained in assessing and remediating drycleaning sites, remedial candidates have been identified earlier in the process.

### Observations/Conclusions

- Drycleaning sites with soil contamination and low level contamination in shallow groundwater can be closed through a combination of active soil remediation and monitored natural attenuation.
- It is important to be able to identify contaminant source removal candidates and be able to implement removal actions when the source area is accessible (such as when a bay in a shopping center is unoccupied). Timely reduction of the contaminant mass in the soil and shallow groundwater will reduce contaminant flux to the deeper and downgradient portion of the groundwater contaminant plume resulting in quicker stabilization of the plume.
- Developing a database with assessment and remedial data from drycleaning sites will aide in remedy selection.
- Remediating drycleaning sites with free-phase PCE in groundwater is problematic. It is not likely that many of these sites will be restored to drinking water standards. Based on projections for 322 Florida drycleaning sites where contamination assessments have been completed, less than 11% of the sites will be closed through monitored natural attenuation. Approximately one third of the sites will be closed through soil remediation. Nearly 38% of the sites will require both soil and groundwater remediation for closure and many of these sites will be conditional closure candidates.

## **Member State Updates**

For the complete listing of state contacts and websites visit:

<http://www.drycleancoalition.org/members.cfm>

### **Florida**

The Waste Site Cleanup Section held its Contractor Workshop on May 5 – 6, 2015 in Tallahassee. A total of 45 contractors and staff attended. The following presentations were made:

- The Benefits of Streamlining Source Characterization & Treatment
- Offsite Access Considerations for Rapid Assessments
- Expanding Performance Based Environmental Management in the Drycleaning Solvent Cleanup Program
- Is Performance Based Cleanup Applicable to Drycleaning Solvent Cleanup Program Sites?
- Use of Government Institutional Controls for Risk Based Closure
- Thermal Remediation Technologies
- EZVI Pilot Test

Two breakout (brainstorming) sessions were held discussing the following topics:

- Transition from Assessment to Remediation
- Offsite Access
- Performance Based Contracting
- Soil Vapor Extraction Revisited
- Working on Active PCE Drycleaning Sites
- Site Budget Cap

### **Kansas**

In February 2014, an investigation of chlorinated solvents detected during sampling at a radium dial site in Wichita, KS resulted in an emergency response action by the Kansas Dry Cleaning Program. The former Four Seasons dry cleaning facility at 8947 W. Central and the former Best Cleaners at 9334 W. Central were identified as the sources of the chlorinated solvent contamination. Samples were collected and analyzed from 87 direct-push probes and 222 residences in order to delineate the plume. A buffer was applied to the plume boundary to define the area of concern. Kansas Department of Health & Environment (KDHE) provided temporary bottled water to 69 residences for drinking and cooking and point-of-entry whole-house carbon treatment systems were provided to 17 residences until connection to alternative water supplies could be achieved. Over 2 miles of water line were installed and 199 residences within the area of concern were connected to the City of Wichita Public Water Supply System. Nested sets of monitoring wells were installed along the perimeter of the area of concern to serve as sentry wells to monitor for any plume migration after the private wells were taken offline. Residences which had domestic wells installed in the interior of the house had replacement wells installed for lawn and garden irrigation purposes and the domestic wells abandoned to mitigate potential vapor intrusion. The Program was not been able to initiate activities at any new sites, or continue monitoring and remediation at existing sites, due to the Four Seasons emergency response, decreased revenue and reimbursement obligations.

The Kansas Legislature passed the Environmental Stewardship Fund (HB 2192) during the legislative session to pay for remediation activities at contaminated "orphan" sites where there is no responsible party to pay for the cleanup. The Kansas Dry Cleaning Program will receive a portion of this Fund to assist in completing assessment activities of "orphan sites" on the backlogged site list. Kansas anticipates completing assessment activities for approximately one third of the "orphan" sites on the backlog list during each of the next three years.

### **New York**

New York does not have a separate and distinct dry cleaner program like many of the SCRD states and is unlikely to adopt one. Sites that have been contaminated due to dry cleaning operations are remediated through our Brownfields Program or our State Superfund Program. Information regarding these programs is available at <http://www.dec.ny.gov/chemical/34189.html>. In the context of these programs, we have, and continue to address, many current/former drycleaners. We have/are addressing approximately 300

such sites. In recent years, the focus on vapor intrusion has increased the number of these sites in our programs

### **North Carolina**

A significant component of NC's Dry-cleaning Solvent Cleanup Act (DSCA) Program is its Compliance Program. The program plays a critical role in NC by educating dry-cleaning owners and operators in order to prevent future releases. The Compliance Program is comprised of 5 inspectors that inspect active dry-cleaners across the state providing a substantial amount of educational assistance towards compliance with the DSCA Minimum Management Practices (MMPs), National Emission Standards for Hazardous Air pollutants (NESHAP), and Resource Conservation and Recovery Act (RCRA) requirements. Program staff have developed and have been providing perc compliance calendars to every perc dry-cleaner in the state since 2007 in order to facilitate record keeping required under NESHAP and the DSCA MMPs. Efforts are underway to develop a petroleum compliance calendar as well. In addition to educational outreach, staff use their enforcement tools such as Notice of Violations (NOVs) and civil penalties to encourage compliance when education and compliance assistance don't work. To further enhance compliance, last year we hired a Korean-speaking compliance inspector to improve communication with Korean-speaking dry-cleaning operators and owners. The Korean-speaking dry-cleaners have responded well to the new inspector, and we expect to see improvements in the compliance rates of this sector of the dry-cleaning community.

North Carolina's Underground Storage Tank Program is coordinating with the Interstate Technology & Regulatory Council (ITRC) to host a two-day training on "Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management", to be held August 31-September 1, 2015 in Raleigh, NC. NC DSCA Program staff are planning to attend to better understand the potential vapor intrusion concerns caused by petroleum-based dry-cleaning solvents.

**South Carolina** In FY-14, 115 additional sites became eligible for the Fund because of the changes to the Act made in 2013. Limited assessment were conducted at 34 locations in the Midlands and we are waiting for the reports. Assessment work has been approved for 45 locations in the Upstate. The remaining 35 sites, located in the Low Country, are slated to be completed in the latter half of FY-15. We have added measurements of sub-slab vapor concentrations at all drycleaning sites and will include indoor air samples at sites that are no longer in operation.

The Drycleaning Facility Restoration Trust Fund prioritizes sites for future funding based on available assessment information and is designed to identify sites which require immediate action to eliminate actual human exposure. New sites are assigned to Group A (for assessment). After assessment sites will be assigned to First Group, Second Group, Third Group, or Group N. First Group is the highest funding priority and Group N warrants no funding and are closed. The priority grouping system categorizes sites broadly. Program staff use other site factors such as potential for off site migration and adjacent land use to determine funding priorities within each group. The Drycleaning Program web page is <http://www.scdhec.gov/environment/lw/drycleaners>.

### **Tennessee**

Tennessee continues to see a decline in active drycleaners within the state. Many appear to change over as a drop store with one main operation in the area. We have also begun doing more compliance inspections on active drycleaning facilities and have discovered a good portion are not in compliance with Best Management Practices. Most have been given an opportunity to cure the deficiencies, but a handful have resulted in show cause hearings due to major violations and/or failure to comply following notice of the violation.

Tennessee has scheduled the 2015 Environmental Compliance Training classes that are available to all TN drycleaners. Classes will occur in July and August across the state.

### **Alabama, Connecticut, Illinois, Minnesota, Missouri, Oregon, Texas, and Wisconsin**

No current program updates.

## **Events, Training and Other Resources**

### **2015 National Brownfields Training Conference**

09/02/2015 - 09/04/2015

Chicago, IL

Brownfields 2015 promises something for all levels of stakeholders and practitioners. The conference program includes speakers, discussions, mobile workshops, films, and other learning formats that are calibrated to provide you with case study examples, program updates, and useful strategies for meeting your brownfield challenges head on

For more information, please visit <http://www.brownfieldsconference.org/>

### **Newsletter Subscription**

If you would like to be placed on the subscription list for the SCRD newsletter please go to the following address <http://www.drycleancoalition.org/newsletter.cfm>. Copies of previous newsletters can be viewed at <http://www.drycleancoalition.org/pubs.cfm> on the SCRD website.

SCRD members are state governments that have established programs to fund remediation of drycleaner sites. Current member states include Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Alaska, California, Delaware, Maryland, New Jersey, New York, and Virginia, which do not have formal programs but are active in drycleaner remediation under other authorities, also participate in Coalition activities. SCRD provides a forum for states to share programmatic, technical, and environmental information to improve the remediation of drycleaner sites. SCRD was established in 1998 and receives technical, management, and training support from the U.S. EPA Office of Superfund Remediation and Technology Innovation (OSRTI).