

*The Florida Drycleaning Solvent
Cleanup Program (DSCP)*



**Florida Department of Environmental Protection
Division of Waste Management
Bureau of Waste Cleanup
Hazardous Waste Cleanup Section**

First Program in the Nation for the Rehabilitation of Drycleaning Facilities

- In 1994, the Florida Legislature created the Drycleaning Solvent Cleanup Program to provide a source of funding for rehabilitating sites and drinking water supplies contaminated by drycleaning solvents.
Chapter 376 of the Florida Statute (F.S.)

The Program

- The DSCP was open for voluntary joint application by drycleaning and wholesale supply facility owners, operators, and real property owners from March 1996 through December 31, 1998.
- Active or inactive drycleaning facilities, drycleaning wholesale supply facilities, and coin-operated drycleaning facilities could apply for cleanup.
- Over 1400 of the 1563 sites that applied to the Program have been made eligible for cleanup.

The Program

- The DSCP bill was sponsored by the Florida Drycleaners Association.
- The Program was created to:
 - Identify facilities contaminated by drycleaning solvents.
 - Establish a Trust Fund to pay cleanup costs.
 - Provide limited immunity to owners, operators and/or real property owners. Eligibility does not relieve the owner, operator or real property owner from Federal actions or from current waste management requirements.

DSCP Funding

- The Program is funded through four sources:
 - 2% gross receipt sales tax
 - \$5 per gallon tax on perchloroethylene solvent
 - \$100 annual registration fee
 - single deductible fee of \$1,000, \$5,000 or \$10,000 based on the date of application to the Program

Site Scoring

- The Florida Department of Environmental Protection (FDEP) administers cleanup of eligible drycleaner sites on a priority basis.
- Eligible sites are scored by statutory system. This scoring system accounts for proximity of drinking water supply wells; the population served by those wells; hydrogeological data for the site; aquifer classification; the probability of a continuing contaminant source; environmental setting; and fire and/or explosion hazard (Section 376.3078 (7) F.S.) .

Priority and Tasking of Sites

- Rehabilitation is conducted through private contractors that are managed by FDEP Contract Managers.
- Sites are assigned to contractors for assessment and cleanup work in the order of their ranking.
- To reduce costs, eligible drycleaning sites are assigned to Program contractors for site assessment in groups based on geographic areas. This affords the Program efficiencies in mobilizations and equipment use.

The Cleanup Criteria Rule

- The Drycleaning Solvent Cleanup Criteria rule (Chapter 62-782, Florida Administrative Code [F.A.C.]), provides cleanup procedures for sites contaminated with drycleaning solvents.
- The Contaminant Cleanup Target Level Rule (Chapter 62-777 F.A.C.) provides cleanup target levels for groundwater, surface water, and soil, as well as natural attenuation default concentrations for groundwater.
- Assessment and remedial activities conducted by the DSCP are in accordance with these two rules.

The Assessment Process

- The initial task of an Assessment is the development of a work-plan, which will identify and establish:
 - Potential contaminant sources and environmental concerns
 - In a preliminary manner, the subsurface conditions within the site vicinity
 - The framework for subsequent site investigation

Site Assessment Goals

- The Program site assessment goals are:
 - Minimize the number of site mobilizations
 - Fully utilize existing data
 - Minimize investigation-derived wastes
 - Streamline reporting requirements

Site Assessment Goals

- The following methodology is used to accomplish these goals:
 - Use of direct push technology and on-site mobile laboratories to provide real-time data to the site manager
 - Whenever feasible, microwells installed with direct push rigs are utilized as monitor wells
 - The scope of assessment work is changed in the field to complete site assessments in a timely and efficient manner
 - Data for the design of remedial systems is collected during the assessment

Selection of Site Remedy

- Upon completion of the assessment a Site Assessment Report (SAR) is prepared.
- This report summarizes the findings of the assessment and makes recommendations for future actions at the site.
- The recommendation for remedial action is dependent upon the contaminant concentrations detected, the horizontal and/or vertical extent of contamination, and the location of potential receptors.
- The goals of the selected remedy are dictated by the Drycleaning Solvent Cleanup Criteria Rule.

Selection of Site Remedy

- Based on the results of the Site Assessment Report the Program's Project Manager recommends:
 - No Further Action
 - Interim Source Removal
 - Natural Attenuation Monitoring
 - Active Remediation to natural attenuation default concentrations followed by monitoring

No Further Action (NFA) Criteria

- The Program goal is to achieve NFA criteria, as outlined in the Drycleaning Solvent Cleanup Criteria Rule. To meet this criteria, it must be demonstrated that contaminated soil and/or water, if present, is below the applicable cleanup target levels.

Natural Attenuation Monitoring (NAM) of DSCP Sites

- As defined in Rule 62-782, “Natural attenuation means an approach to contain the spread of contamination and reduce the concentrations of contaminants in contaminated groundwater and soil. Natural attenuation processes may include the following: sorption, biodegradation, chemical reactions with subsurface materials, diffusion, dispersion, and volatilization.”

Natural Attenuation Monitoring (NAM) of DSCP Sites

- NAM may be the preferred remedial strategy for sites with limited contamination. Generally, these are sites where:
 - Contaminant levels are below the Natural Attenuation Default Concentrations per 62-777 F.A.C.
 - The extent of contamination is limited to the site property
 - There is no continuing contaminant source area
 - Contaminant concentrations are expected to decrease over time

Active Remediation

- The Program's remedial strategy is to perform active remediation in source areas and to apply Natural Attenuation Monitoring (NAM), where appropriate, for low-level contaminant plume areas.
- To date, approximately 50% of sites with a completed site assessment have required active remediation for site cleanup.
- Active remediation of a site may require a single remedial technology or a combination of technologies.
- Emphasis is on using in-situ treatment technologies in order to minimize system operation and maintenance costs.

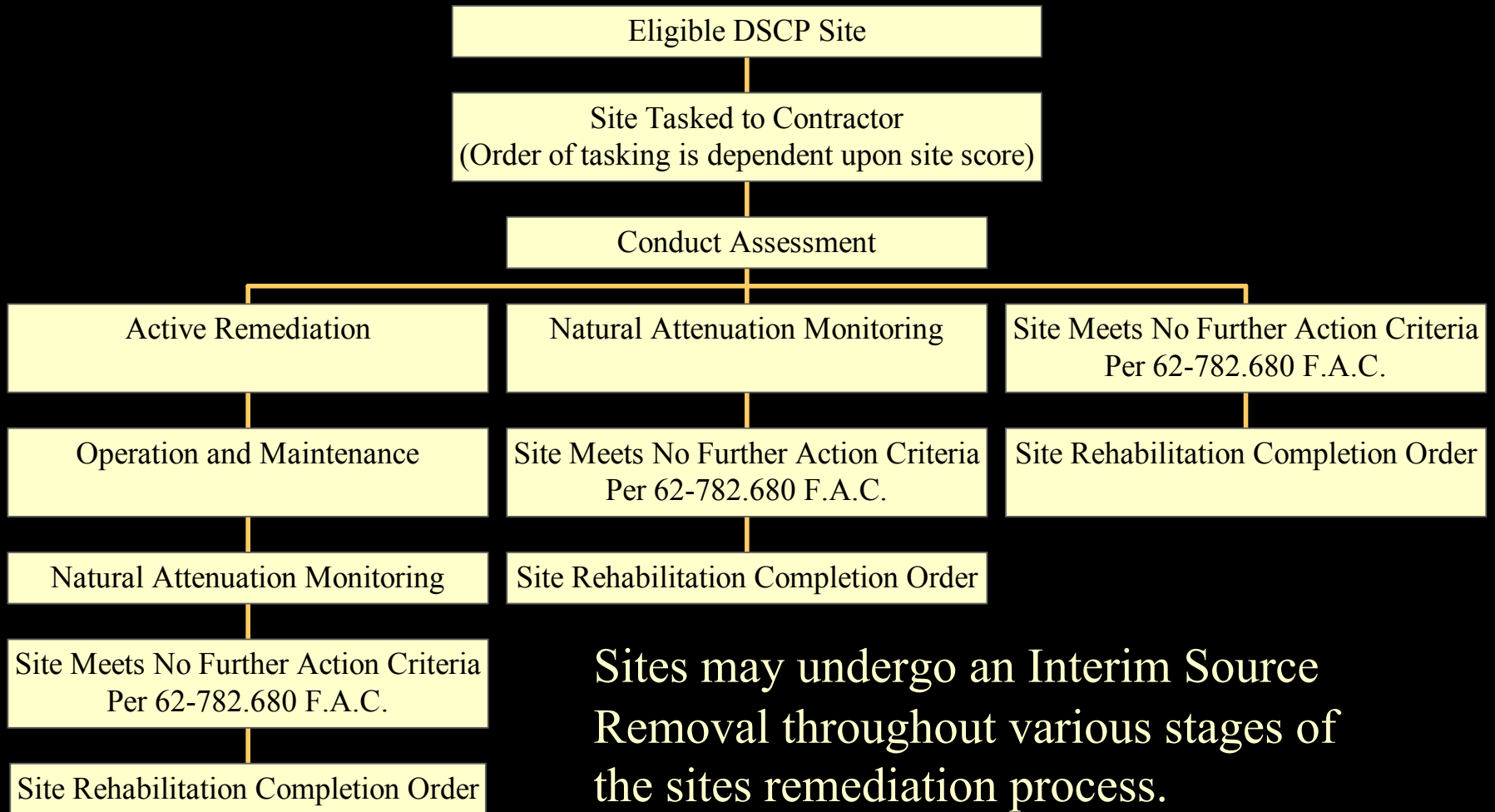
Remedial Technologies

- Technologies the Program has successfully implemented include:
 - Source Removals
 - Excavation, Cleaning of Septic Tanks and Storm-water Basins
 - Vapor Extraction
 - Soil Vapor, Multi-Phase
 - In-Situ Physical Groundwater Treatment
 - Recirculation Wells, Air Sparging and Pump & Treat
 - In-Situ Enhanced Bio-remediation
 - Hydrogen Release Compound (HRC)
 - In-Situ Chemical Oxidation
 - Hydrogen Peroxide and Potassium Permanganate
 - In-Situ Co-Solvent Flushing (Ethanol)
- The Program is considering and developing other innovative methods for site remediation.

Site Rehabilitation Completion Order (SRCO)

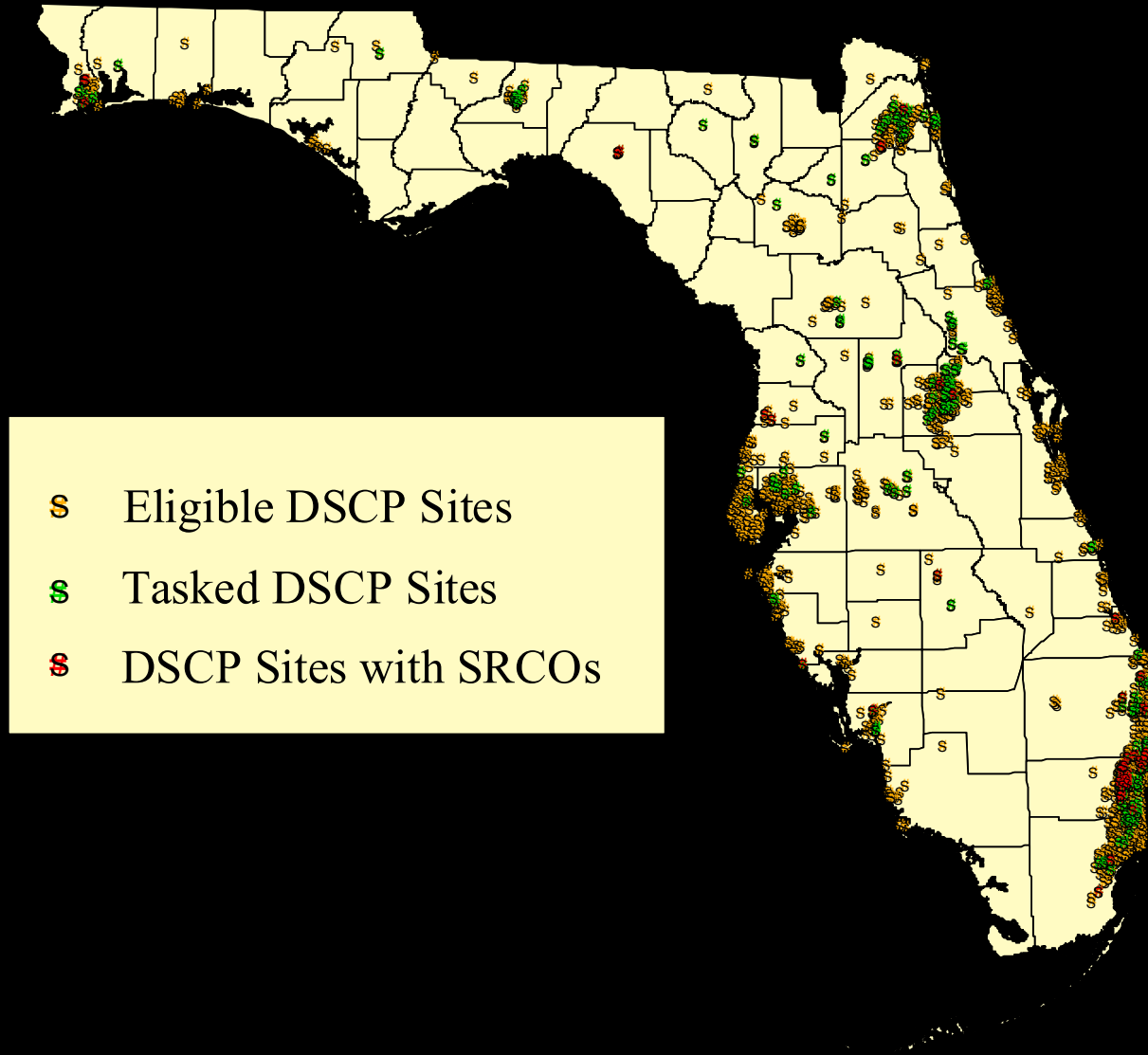
- Once a site has met the NFA criteria a SRCO is issued.
- The SRCO is a Departmental Order issued documenting the completion of the site's remediation.
- For drycleaning sites in the DSCP a SRCO will mark the end of state remediation activities.

Basic DSCP Site Flow Chart



Sites may undergo an Interim Source Removal throughout various stages of the sites remediation process.

DSCP Sites Throughout Florida



The Future of the Program

- The Program will continue to assess and remediate all eligible sites in a manner that is objective, expedient, innovative, and fiscally responsive.

Program Links and Contacts

Florida DEP DSCP web page –

<http://www.dep.state.fl.us/waste/categories/drycleaning>

Florida DEP DSCP Priority Ranking List-

<http://www.dep.state.fl.us/waste/categories/drycleaning/documents/rank.pdf>

State Coalition for the Remediation of Drycleaners-

<http://www.drycleancoalition.org>