



Department of Environmental Quality
Division of Waste Management

GIS Data Resources
and
Well Decision Support Application

Mission: to prevent harmful releases of waste to the environment, and clean up existing contamination.



Core Program Areas

- Superfund
- Hazardous Waste
- Solid Waste
- Underground Storage Tanks
 - Petroleum releases above/below ground
- Brownfields Redevelopment



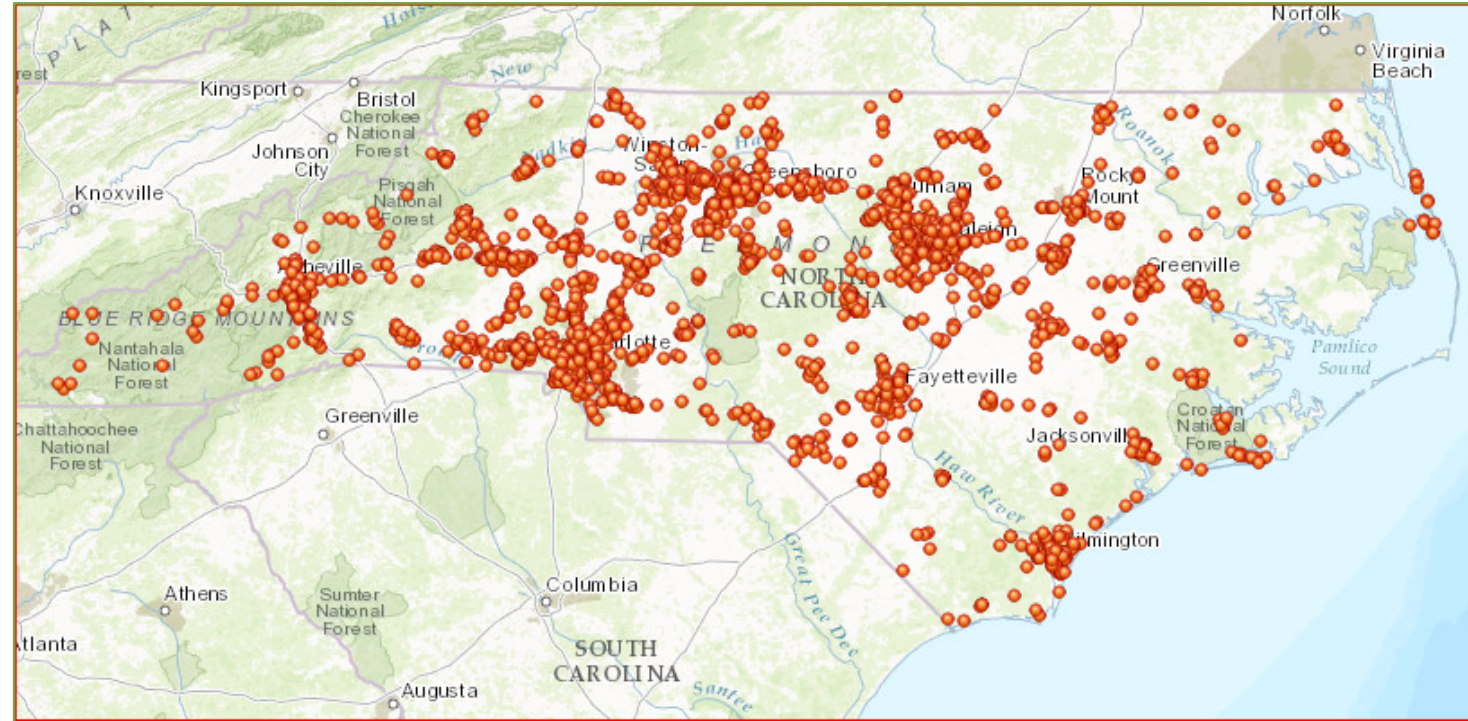
Hazardous Waste Program

- Ensures the safe management of hazardous industrial waste by implementing federal regulations adopted under the Resource Conservation and Recovery Act and state requirements (RCRA).
- Authorized to implement the federal program (1980).



Hazardous Waste Program GIS Data

- Hazardous Waste Sites
- 2,577 features currently
- Annual / Bi-Annual Maintenance
- Located by GPS and Geocoded Address
- Attributes include:
 - Owner
 - Point of Contact
 - Type
 - Small Quantity
 - Large Quantity
 - Transporter
 - Treater
 - Storage



Solid Waste Program

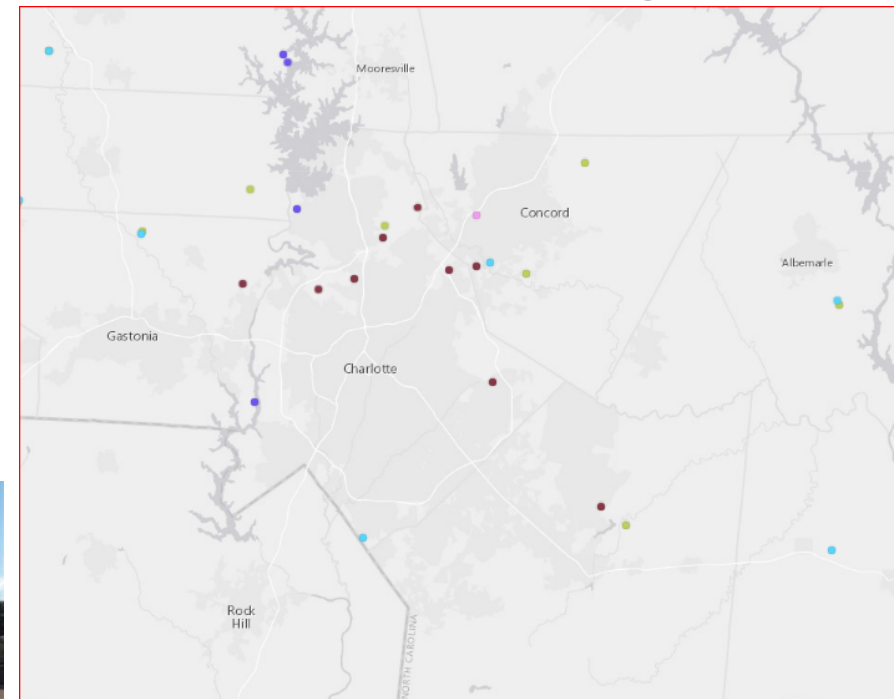
- Regulates safe management of solid waste through guidance, technical assistance, regulations, permitting, environmental monitoring and compliance evaluation.
- Includes composting and land application, coal ash management, medical waste as well as industrial and sanitary waste streams.
- Examples Include:
 - Landfills (municipal and private)
 - Land Clearing Debris
 - Composting Facilities



Solid Waste GIS Datasets

- Active Permitted Landfills

- GIS data set depicts the location of active landfills, including industrial, tires, or land clearing and inert debris.
- 177 Features
- Updated Quarterly
- Classified by type
 - Construction Debris
 - Industrial
 - Land Clearing
 - Municipal Solid Waste
 - Scrap Tires
- Attributes include:
 - Permit ID
 - Location ID
 - Name / Location



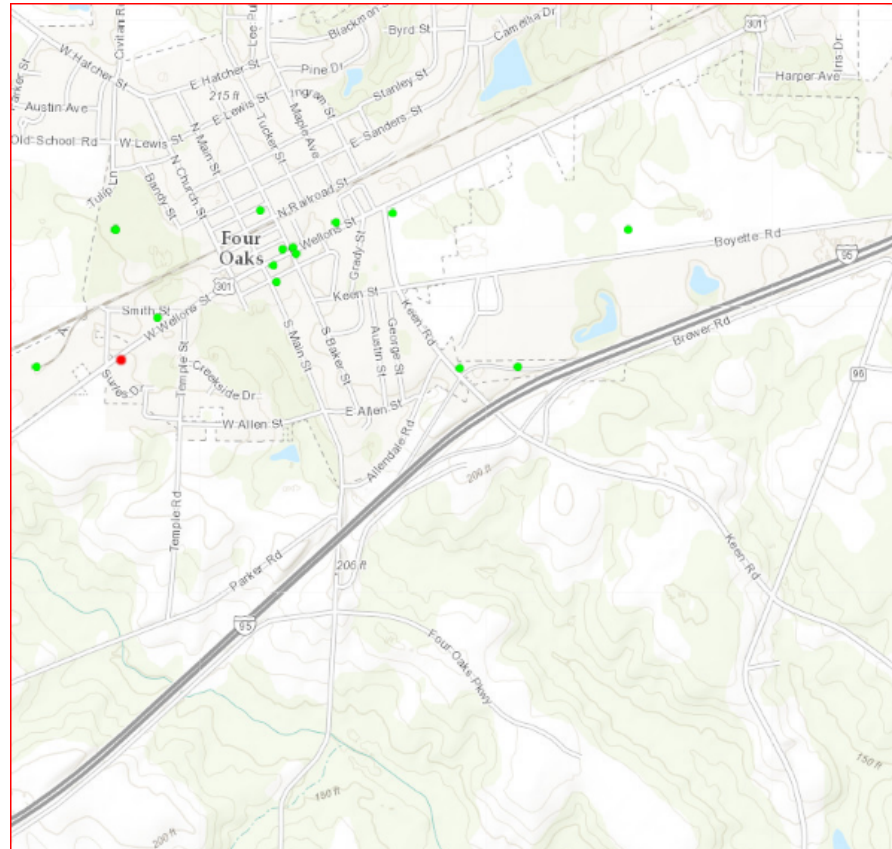


- Registers, permits, inspects and collects operating fees for regulated (commercial) underground storage tanks (USTs).
- Oversees cleanups of releases from USTs.
- Responds to releases of petroleum from other sources.
- Approved program by EPA (2001).



UST Storage Tanks GIS Data

- This layer contains UST contamination incidents information. The attribute table contains incident names and numbers, address, lat/long, confirmed risk, qualifiers for GPS data, and open/closed status.
- 31,420 features
- Updated Quarterly
- Presented with Risk Index
 - High
 - Intermediate
 - Low
 - Unknown
- Attributes include:
 - Incident Number
 - UST Number
 - Facility ID
 - Name / Location
 - Current Status
 - Closeout Date



Brownfields Program

- Provides a mechanism for treating prospective developers of brownfield sites differently from the parties responsible for contaminating them, to encourage economic redevelopment.
- Authorized by the state's Brownfield Property Reuse Act and funded by EPA grant and State Fees.



Brownfields Program

- Brownfields Properties are:
 - Abandoned, idled, or underutilized properties at which redevelopment is hindered by actual environmental contamination or the possibility of environmental contamination.
- Brownfields Activities:
 - Property eligibility determinations
 - Technical site assessment guidance
 - Risk assessment/Risk management
 - Brownfields Agreement drafting and negotiation
 - Public notification and comment response
 - Risk mitigation implementation
 - Institutional controls, compliance assistance and monitoring

Brownfields Success

Before: An abandoned textile mill (circa 1888) and chromium electroplater (circa 1955).



Brownfields Success

- After: Alpha Mill Apartments, bordering uptown Charlotte...



...with preservation of historic architectural heritage.



Brownfields GIS Data

- Brownfield Site Locations

- The purpose of this data set is to provide a geographic representation of the location of sites with completed and eligible Brownfields Agreements under the Brownfields Property Reuse Act. This dataset is intended for general planning and mapping purposes (rather than highly accurate analytical or public health purposes).

- Point and Polygon Layers
- Boundaries (polygons) are being updated and agreements are completed
- Attributes include:
 - Site ID
 - Name / Location
 - Date agreement signed
 - Acreage



Superfund Program

- **Inactive Hazardous Sites**

Created to protect public health and the environment from releases of uncontrolled and unregulated hazardous substances not addressed by other programs, and to facilitate the cleanup and reuse of sites contaminated by those releases.

- **Special Remediation**

Dry-Cleaning Solvent Cleanup Act Program
Manufactured Gas Plant sites

- **Federal Remediation**

Works with the EPA to investigate and respond at those sites that qualify for cleanup under CERCLA because of the magnitude of their impact, or because they require emergency action. Also work with DOD sites.



Superfund Program Datasets

- Inactive Hazardous Sites

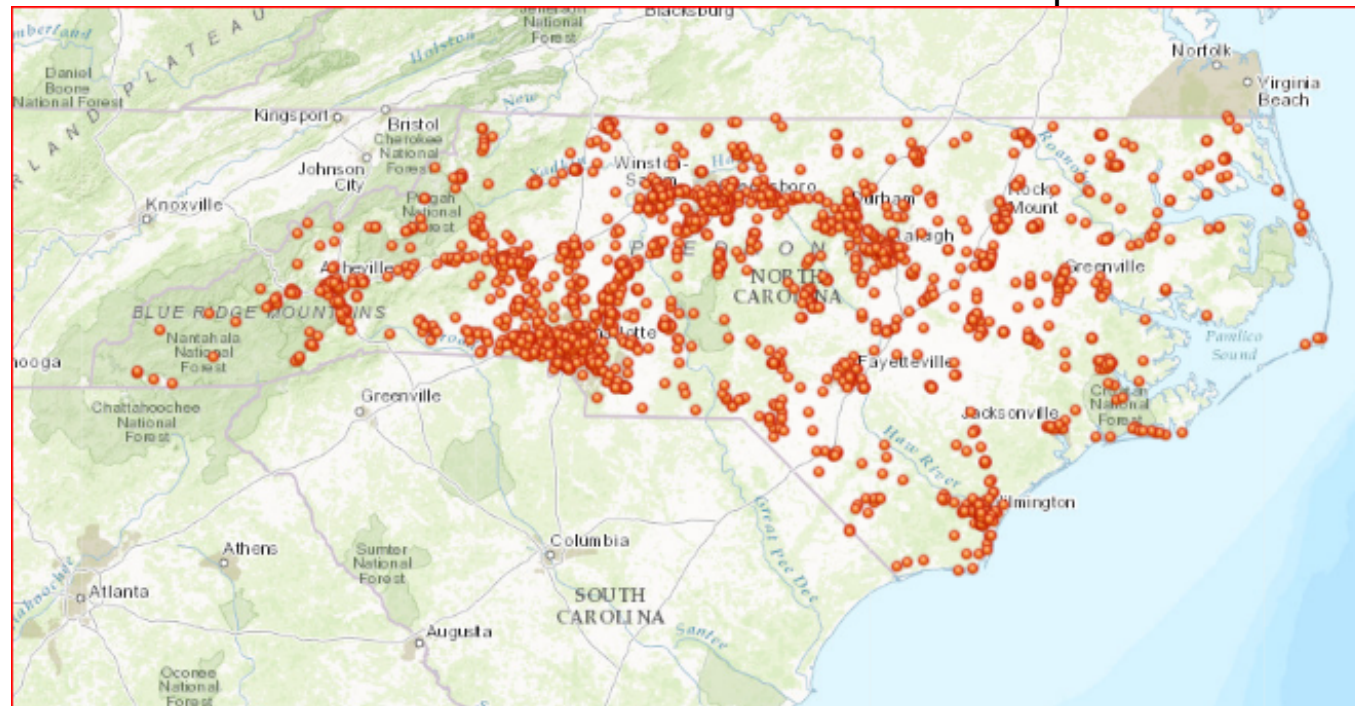
- This data set represents hazardous substance spill and disposal sites (as points) and includes active and inactive facilities and a variety of property types. The term “inactive” refers to the fact that cleanup was inactive at large numbers of sites at the time of program enactment. This data set includes closed remediation sites that have **land use restrictions** recorded as part of the remedy.

- 1,896 Features

- Updated Quarterly

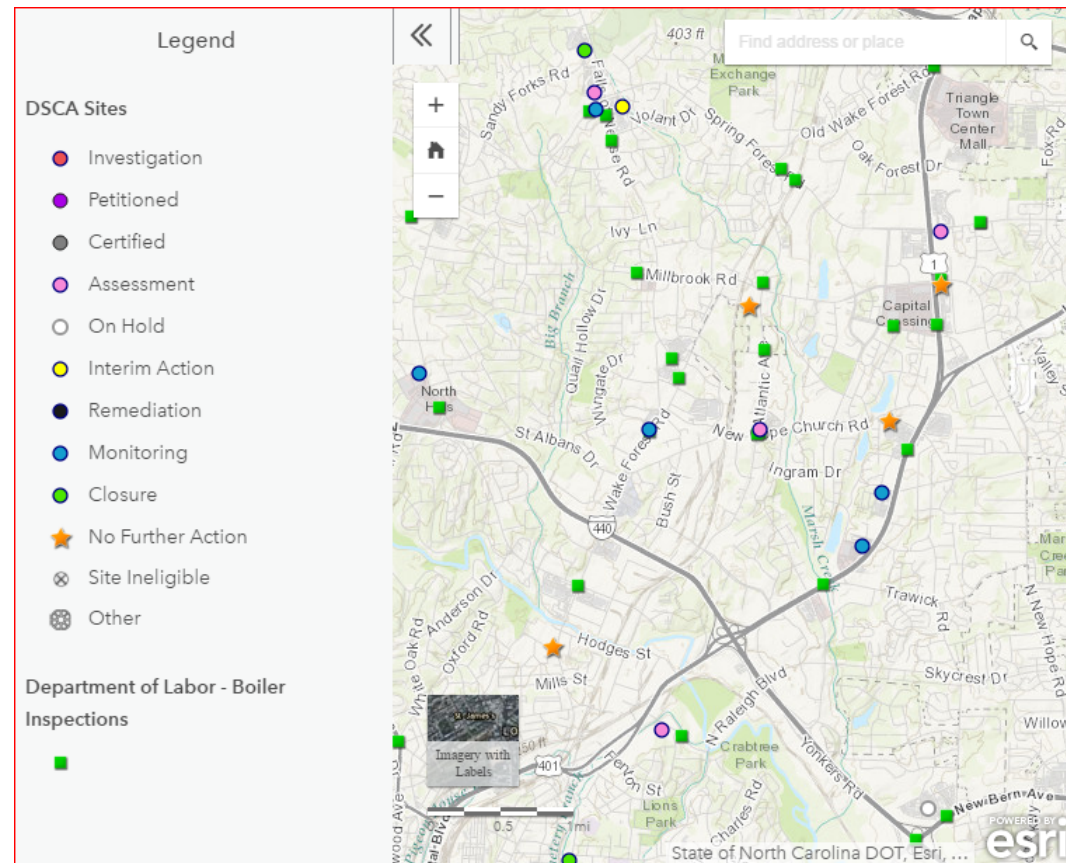
- Attributes Include:

- EPA ID
- Site Name / Location



Superfund Program Datasets

- Dry-Cleaning Solvent Cleanup Act (DSCA) Sites
 - Point locations address and status information for sites that have been certified into the DSCA Program.
 - 474 Features
 - Updated Quarterly
 - Attributes include:
 - Site ID / Name
 - Site Status
 - Project Manager and Contact Info

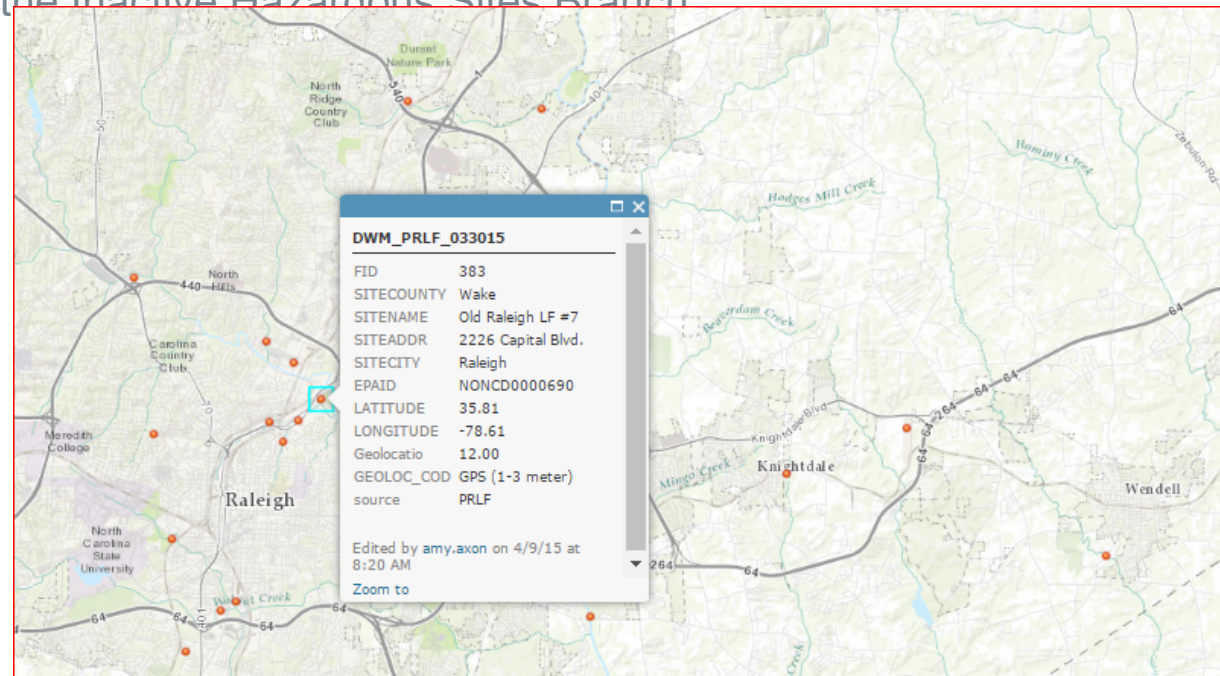


Superfund Program Datasets

- Pre-Regulatory Landfills

- This data set represents the locations of non-permitted landfills that closed prior to January 1, 1983 when waste disposal permitting regulations commenced where sites could be located. The legislation in 2007 (SB1492) resulted in adding new provisions to the Inactive Hazardous Sites Response Act for addressing these landfills. This new program will be implemented by the Pre-Regulatory Landfill Unit within the Inactive Hazardous Sites Branch

- 659 Features
- Updated Quarterly
- Attributes include:
 - Site Name / Location



DWM GIS Data Delivery

- New data delivery formats all based in ArcGIS Online framework, which include:
 - Shapefile
 - Web Service
 - Embedded Web Maps
- Metadata
 - ISO 19139 Implementation Specification GML 3.2
 - North Carolina ISO Standard -- *When implemented*

Home Permits & Rules Outreach & Education Research Conservation News About Contact

Home > About > Divisions > Waste Management > Waste Management Science and Data > Waste Management GIS Data and Maps

Waste Management GIS Data and Maps

Waste Management Science and Data

Waste Management GIS Maps

- [Debris Sites Map](#)
- [UST Registered Tanks Map](#)
- [Dry Cleaning Solvent Act Map](#)
- [Hazardous Waste Sites Map](#)
- [Underground Storage Tank Incidents Map](#)
- [Inactive Hazardous Sites Map](#)
- [Manufactured Gas Plants Map](#)
- [Pre-regulatory Landfills Map](#)
- [Brownfields Sites and Boundaries Map](#)
- [Waste Management Vapor Intrusion Guidance](#)
- [Guidelines For Performing Screening Level Ecological Risk Assessments](#)
- [Solid Waste Management Annual Reports](#)
- [Annual Legislative Report](#)
- [DSCA Annual Reports](#)
- [DSCA Resources and Links](#)

Geographic Information Systems

Disclaimer

NC DENR staff have compiled this dataset to the best of their abilities using the resources available to them. NC DENR neither verifies nor guarantees the accuracy, reliability, or completeness of any data provided. NC DENR provides this data without warranty of any kind whatsoever, either express or implied, and shall not be liable for incidental, consequential, or special damages arising out of the use of any data provided herein.

GIS Layers Available for Download

View Map	Description	Shapefile Download	ArcGIS Online Link
BFA Sites Map	Location of sites with a completed Brownfields Agreement as recorded in the NC DENR Division of Waste Management Brownfields Program database	Point	BFA_Sites
BFA Sites Map	Completed Brownfields Agreement site boundaries as recorded in the NC DENR Division of Waste Management Brownfields Program database	Polygon	BFA_Boundary
DSCA Sites	Locations address and status information for sites that have been certified into the DSCA Program	Point	DSCA_Sites
HW Sites	Location of sites within North Carolina that are regulated by the hazardous waste portions of the Resource Conservation and Recovery Act (RCRA).	Point	HW_Sites
In Sites	This data set represents hazardous substance spill and disposal sites (as points) and includes active and inactive facilities and a variety of property types. The term "inactive" refers to the fact that cleanup was inactive at large numbers of sites at the time of program enactment. The data set includes closed remediation sites that have land use restrictions recorded as part of the remedy.	Point	In_Sites
MGP Sites	Location of Manufactured Gas Plants (MGP) sites participating in the MGP Assessment and Remediation Program as described in the Administrative Order on Consent 00-SF-192	Point	MGP
Active Permitted Landfills	Locations of landfills that are permitted by the State and are actively accepting waste.	Point	AP_Landfill

GIS Data Pages

- Layer Information

- Overview

- Description
 - Access and Use Constraints
 - Comments
 - Metadata

- Data

- Only with Feature Services

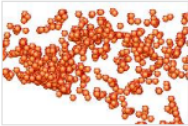
- Visualization

- Only with Feature Services

Home Gallery Map Scene Groups Sign In


Inactive Hazardous Sites

Overview Data Visualization



The purpose of this data set is to provide a geographic representation of the location of inactive hazardous sites.

by amy.axon
Last Modified: May 31, 2016

 Feature Layer

Open in Map Viewer ▼

Open in Scene Viewer

Open in ArcGIS for Desktop



Metadata

Description

This data set represents hazardous substance spill and disposal sites (as points) and includes active and inactive facilities and a variety of property types. The term "inactive" refers to the fact that cleanup was inactive at large numbers of sites at the time of program enactment. This data set includes closed remediation sites that have land use restrictions recorded as part of the remedy.


Layers

Inactive_Hazardous_Sites

 Open In ▼  Service URL

Access and Use Constraints

None. Please check sources, scale, accuracy, currentness and other available information. Please confirm that you are using the most recent copy of both data and metadata. Many of the data points were collected through automatic geocoding methods using the address field. In many cases the address information is limited. Due to limits on currently available location information, some locations may be off by several miles. Acknowledgement of the Division of Waste Management would be appreciated.

Comments (0) 

Sort By:

[Sign in to add a comment.](#)

Details



★ ★ ★ ★ ★ 0 ratings, 3,854 views

Source: [Feature Service](#)


Created From: [Inactive Hazardous Sites, Shapefile](#)

Created: January 27, 2016

Size: 936 kB

Owner


 amy.axon

Tags

[DEQ, NC, NC DEQ, North Carolina, Department of Environmental Quality, DWM, Division of Waste Management, Official NCDEQ, Feature Service](#)

Credits (Attribution)

[NC DEQ](#)

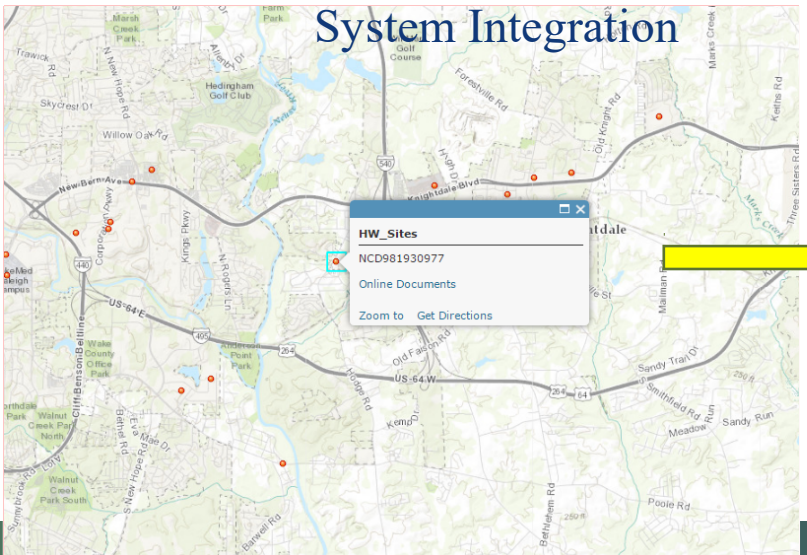
URL 



GIS Data Pages

- **Web Services**

- Customized Popups
- Context Attribute Display
- Updates are automatic
- Utilized in desktop GIS software, as well as web clients like ArcGIS online maps and applications
- Laserfiche Document Management System Integration



Laserfiche WebLink

Home Browse Search

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Name	Hits	Page count	Template name	Name	Total document size	ID
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Page 1 of 1

Document Date: from to

Received Date: from to

Description:

Author:

Facility/Site Address:

Facility/Site City:

Search Reset

INVOICE 2010

ATTENTION ACCOUNTS PAYABLE

FACILITY STA. NO.	DATE	DUPLICATE	DUPLICATE DATE	DUPLICATE DATE	DUPLICATE DATE	DUPLICATE DATE	DUPLICATE DATE
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Small quantity generator

SMALL QUANTITY GENERATOR	FEES	TONNAGE	AMOUNT DUE
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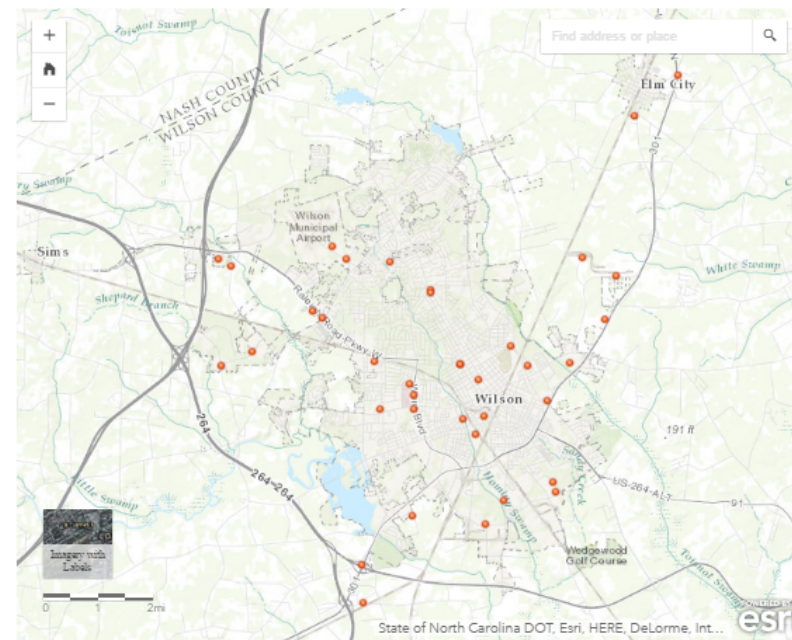


GIS Data Pages

- **Embedded Web Maps**
 - Specific to the Section, typically one layer maps
 - Search by address or coordinate
 - Access Popups without creating a map or project
 - Toggle the base map to view aerial imagery
 - “View Larger Map” to switch to a full screen view

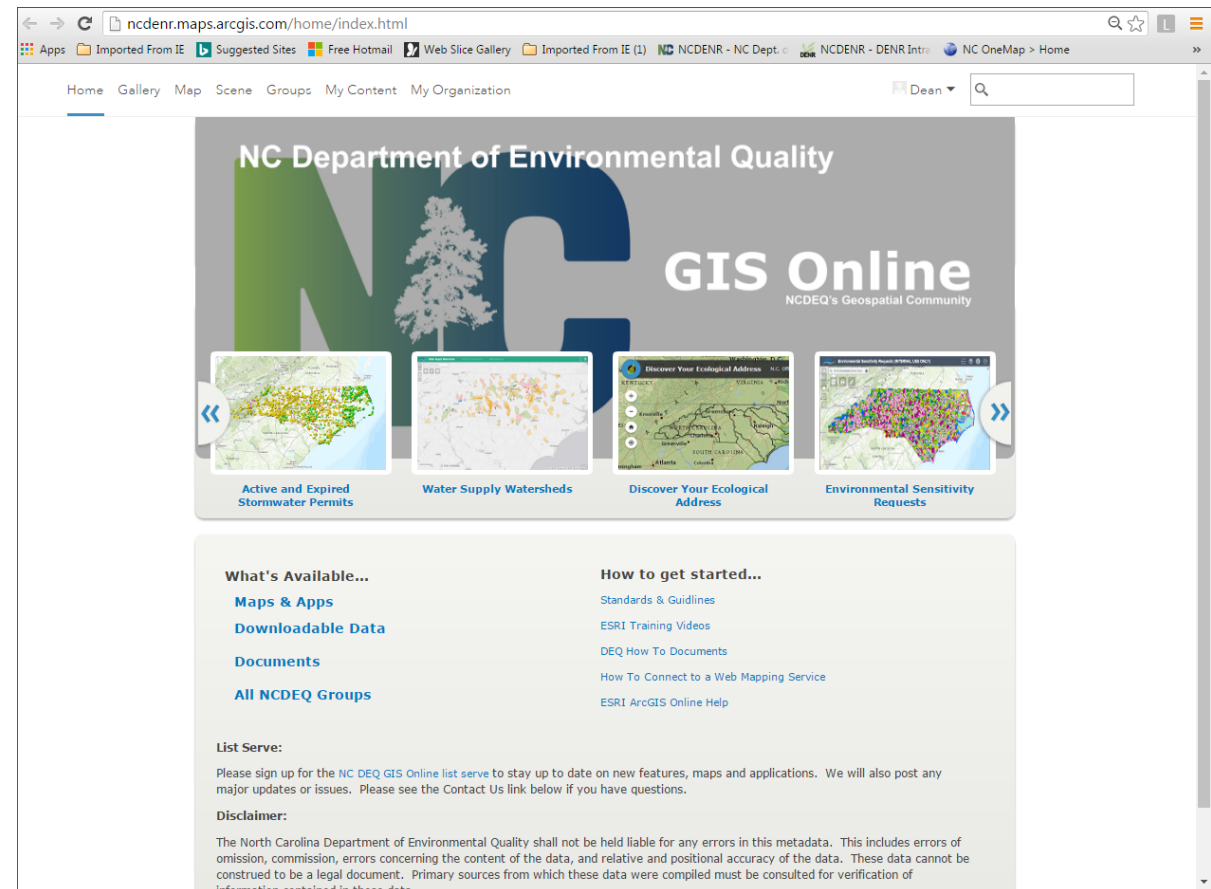
Hazardous Waste Sites Map

Disclaimer: NC DEQ staff have compiled this dataset to the best of their abilities using the resources available to them. NC DEQ neither verifies nor guarantees the accuracy, reliability, or completeness of any data provided. NC DEEQ provides this data without warranty of any kind whatsoever, either express or implied, and shall not be liable for incidental, consequential, or special damages arising out of the use of any data provided herein.



- Departmental ArcGIS Online Portal

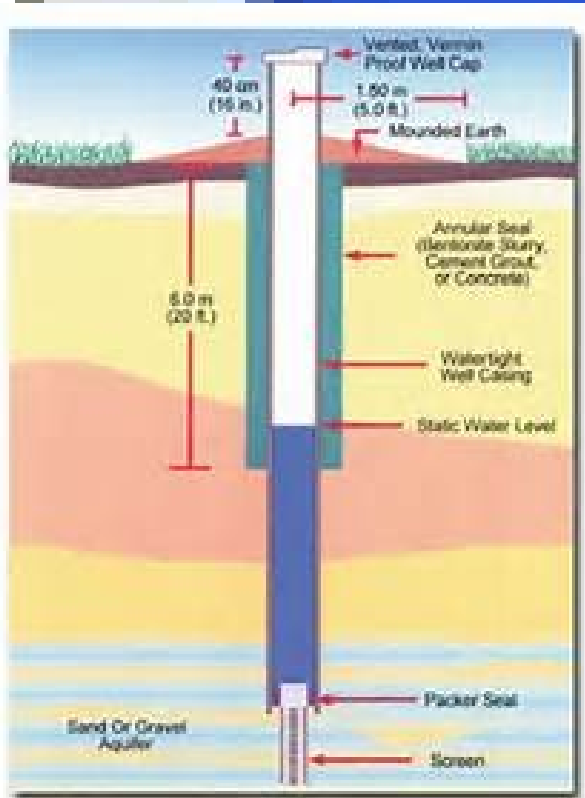
- Launch of new Applications and Data Services
- Documentation
- Open GIS portal
- Links to other Departments and Customized data layers



Case Study

Well Permit Decision Tool

Click icon to add picture



Development of the Well Permit Decision Tool



N.C.G.S. 87-97(e1)
SL 2014-413

- EMC shall adopt permitting rules for proposed private drinking water wells within 1,000 ft of a “known source of release of contamination”
- Rules shall provide for
 - notice and information of the known source of release of contamination
 - any known risk of issuing a permit for the construction and use of a private drinking water well on such a site.



Origins

- 2C rules prohibit constructing a well in an aquifer or water bearing zone known to be contaminated
- LHDs have some knowledge of where past releases have occurred
- LHDs don't have access to all details of where the contamination has spread
- Applicants simply want a permit!

Goal

- Create a simple online tool to allow LHDs to:
 - Identify well sites that need notice under G.S. 87-97(e1)
 - Inform well owner about potential risks
 - Recommend additional sampling to well owner
- A conversation starter
- NOT a map of potential sources of contamination
- NOT a definitive map of all contaminated groundwater

“Known Source of Release of Contamination”

- Known to whom?
- What is a release of contamination?
- What is the location or boundary of the source?
- How do we determine this??

“Known Source of Release of Contamination”

- “Known”: to DEQ or the County
- “Release of contamination”: defined by programs for management of contamination

Known Source of Release of Contamination

- Proposed Definition!!
- “Known source of release of contamination” means a location where any of the following activities, facilities, or conditions have been documented by the Department of Environmental Quality or a local health department authorized to implement the relevant program on DEQ’s behalf:

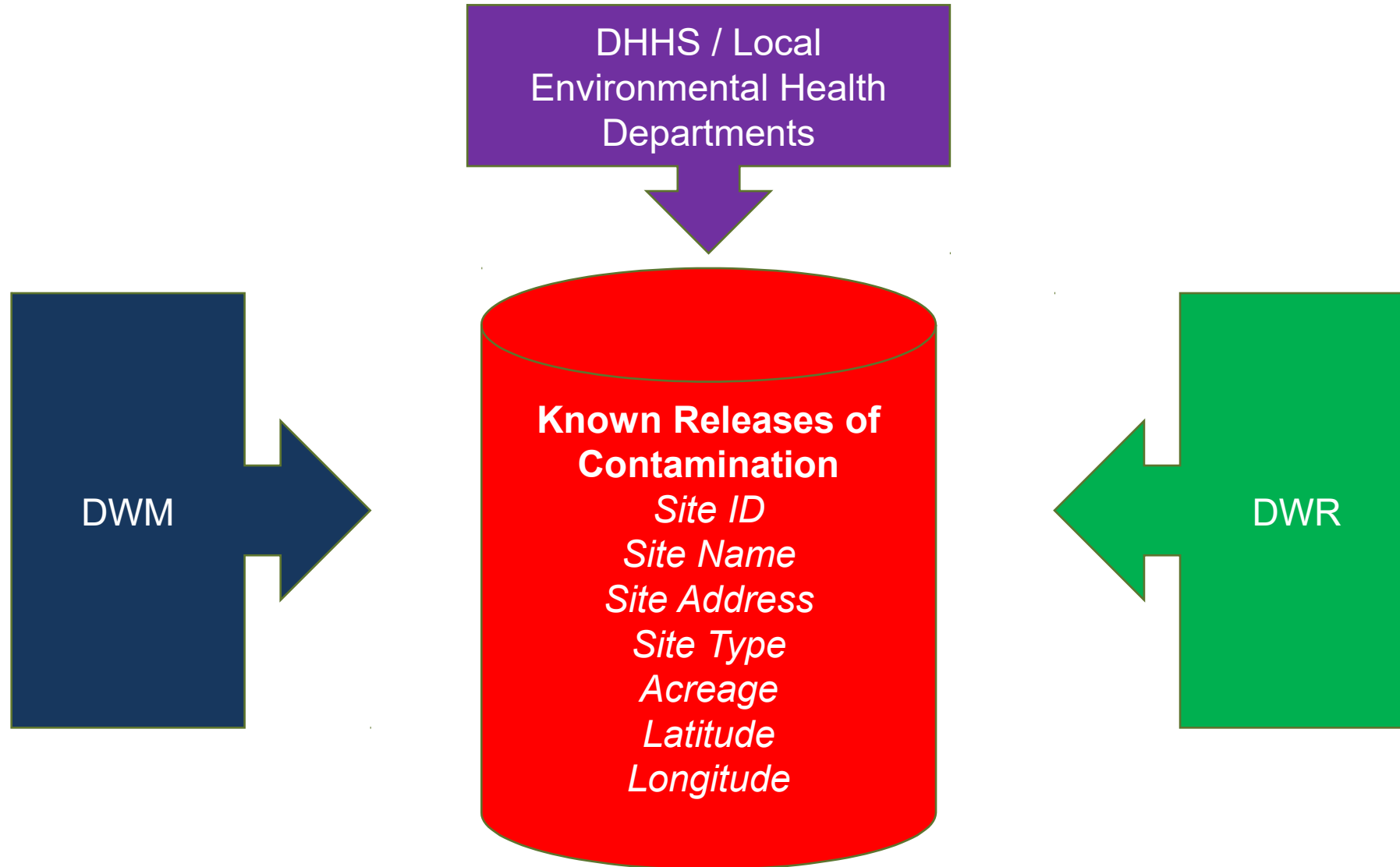


- Contamination incidents arising from routine **agricultural operations**, including application of agricultural chemicals (not including unlawful discharges, spills or disposal of such chemicals) pursuant to 15A NCAC 02L .0106(p)
- Contamination associated with the construction or operation of **injection, monitoring, and other wells** subject to permitting under the Well Construction Act (G.S. 87-88) and 15A NCAC 02L .0106(d).
- Contamination associated with the operation of **non- discharge, discharge (NPDES) facilities**, land application of animal waste, and other activities subject to permitting under G.S. 143-215.1 and 15A NCAC 02L .0106(d).
- Releases of **hazardous waste or constituents** that currently exceed the 15A NCAC 2L .0202 standards at facilities governed under G.S. 130A-294;
- **Dry-Cleaning Solvent Cleanup sites** regulated under G.S. 143-215.104;
- **Pre-regulatory landfills** and Inactive hazardous substance or waste disposal sites governed under the Inactive Hazardous Sites Act of 1987 (North Carolina General Statute 130A-310 et seq);
- **Solid waste facilities** subject to 15A NCAC 13B that have **monitoring wells with exceedances** of the 15A NCAC 2L .0202 standards;
- **Releases of petroleum and hazardous substances** subject to G.S. 143-215.75 through 215.98;
- Sites that fall within the authority of the **Brownfields Program** as defined by NC General Statute 130A, Article 9 Part 5; or
- Contamination associated with **pollution sources in soils** under 15A NCAC 2L .0106(f) or **other sites** known or suspected to have exceeded 15A NCAC 2L .0202



Known Source of Release of Contamination

Available Data



Known Source of Release of Contamination

Available Data

- Locations of known sources to the Department of Environmental Quality, Waste Management and Water Resource Divisions
- Basic identifying information
 - Incident / Site number
 - Regulatory program/site category
 - Agency contact information
- Major groups of contaminants (metals, VOCs, CVOCs, pesticides, etc.)

Known Source of Release of Contamination

Project Deliverables / Products

- Web Based Application
 - Easy to use for non-GIS users
 - Quick access to data
 - Ability to document findings
 - Contact Information
 - Distribution Requirements
- Data Service
 - Allow use of the compiled data in other, agency developed applications
 - Metadata
 - Security
 - Contact Information
 - Distribution Requirements



Issues to Resolve

- Quality & completeness of locational data
- Geoprocessing costs
- Known risks
- Stakeholder feedback
- Rulemaking

Demos

- DWM GIS Data Webpage
 - <http://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/waste-management-gis-maps>
- Well Permit Decision Tool Application



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North Carolina Department of Environmental Quality
Division of Waste Management

Business and Technology Applications Specialist

<http://deq.nc.gov/science-data>

<http://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/waste-management-gis-maps>