Environmental Monitoring Database (EMD)

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NEW HAMPSHIRE DEPARTMENT OF Environmental Services

What is in the EMD?

- Primarily raw environmental data
  - observations
  - measurements
  - lab results
  - data logger results
- For various media: water, soil, air
- Data separated by data owner and project
  - Contains data for organizations other than NHDES
- Monitoring location info (where measurements taken)
- Metadata (analytical methods, sample collection methods etc.)
- QC samples (field duplicates, trip blanks etc.)

About the EMD structure

- Originally built in-house in Oracle to store surface water monitoring data for reporting to EPA’s STORET database
- Revised over time to include columns and other media needed by other bureaus within NHDES
- Meets EPA’s national data standards for environmental data

What is the EMD used for?

- Reporting data to the EPA's Water Quality Exchange (WQX)/STORET through the Exchange Network
- Repository for data used in waterbody assessments
- Repository for NH environmental data generated by any group
- Trend analyses

Examples of data in the EMD

- Beach monitoring
- Shellfish
- Lakes, river, estuary
- Site remediation
- Well siting
- Air monitoring
- Volunteer monitoring
- Complaint investigation
- Superfund
- Biomonitoring
- Regional or waterbody studies
- TMDL (Total Maximum Daily Load) studies

Some EMD data owners besides NHDES

- Upper Merrimack Monitoring Program (UMMP)
- UNH
- 401 Water Certification Permittees
- Great Bay National Estuarine Research Reserve (GBNERR)
- Various NH towns
- NH Fish and Game
- NH Dept of Transportation
- USGS – NH
- NOAA
- EPA

Maybe you would like to be a data provider?

How much data is in the EMD?

- 37 data owners/providers
- 655 projects (groupings of data)
- 26,000+ monitoring locations
- 554,000+ activities
- 4879 QC samples
- 1963 data logger installations
- Millions of results

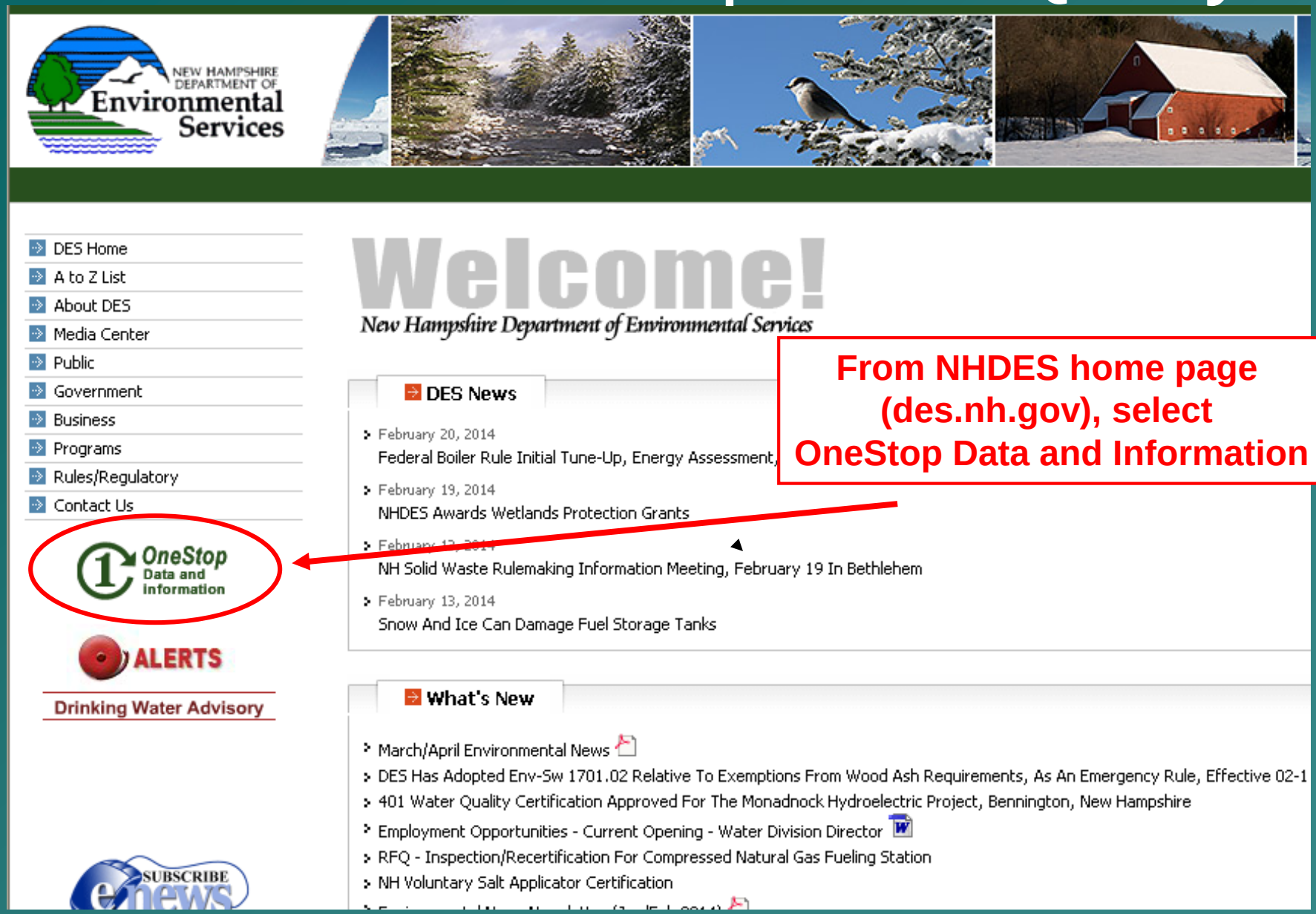
Some data goes back to the 1950’s!

How can you get to the EMD data?

1)NHDES OneStop EMD Query

2) NHDES GIS OneStop Data Layer

NHDES OneStop EMD Query



From NHDES home page (des.nh.gov), select OneStop Data and Information

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

- DES Home
- A to Z List
- About DES
- Media Center
- Public
- Government
- Business
- Programs
- Rules/Regulatory
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OneStop Data and Information

ALERTS

Drinking Water Advisory

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OneStop Data and Information

Please disable popup blockers in your web browser. Popup blockers will limit your ability to access portions of the

- What is OneStop?/What's new on OneStop?
- OneStop Data
- Air E-Permitting
- Subsurface E-permitting
- OneStop Data Provider
- Web Geographic Information Syst

Environmental Data and Infor

Select "Environmental Monitoring Data"

- Aboveground Storage Tank
- Accredited Laboratory Search
- Air Stationary Source
- Alteration of Terrain Permit
- Asbestos Disposal Site (Inactive)
- Auto Salvage Yard
- Beach Data & Advisories
- Bottled Water Site
- Environmental Monitoring Data (Microsoft Internet Explorer only)
- Groundwater Discharge Site

an official NEW HAMPSHIRE government website

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

DES Home | Master Query | OneStop Menu | A to Z LIST

One Stop Data and Information

Select type of data to query – grab samples or data logger.

Environmental Monitoring Database (EMD)

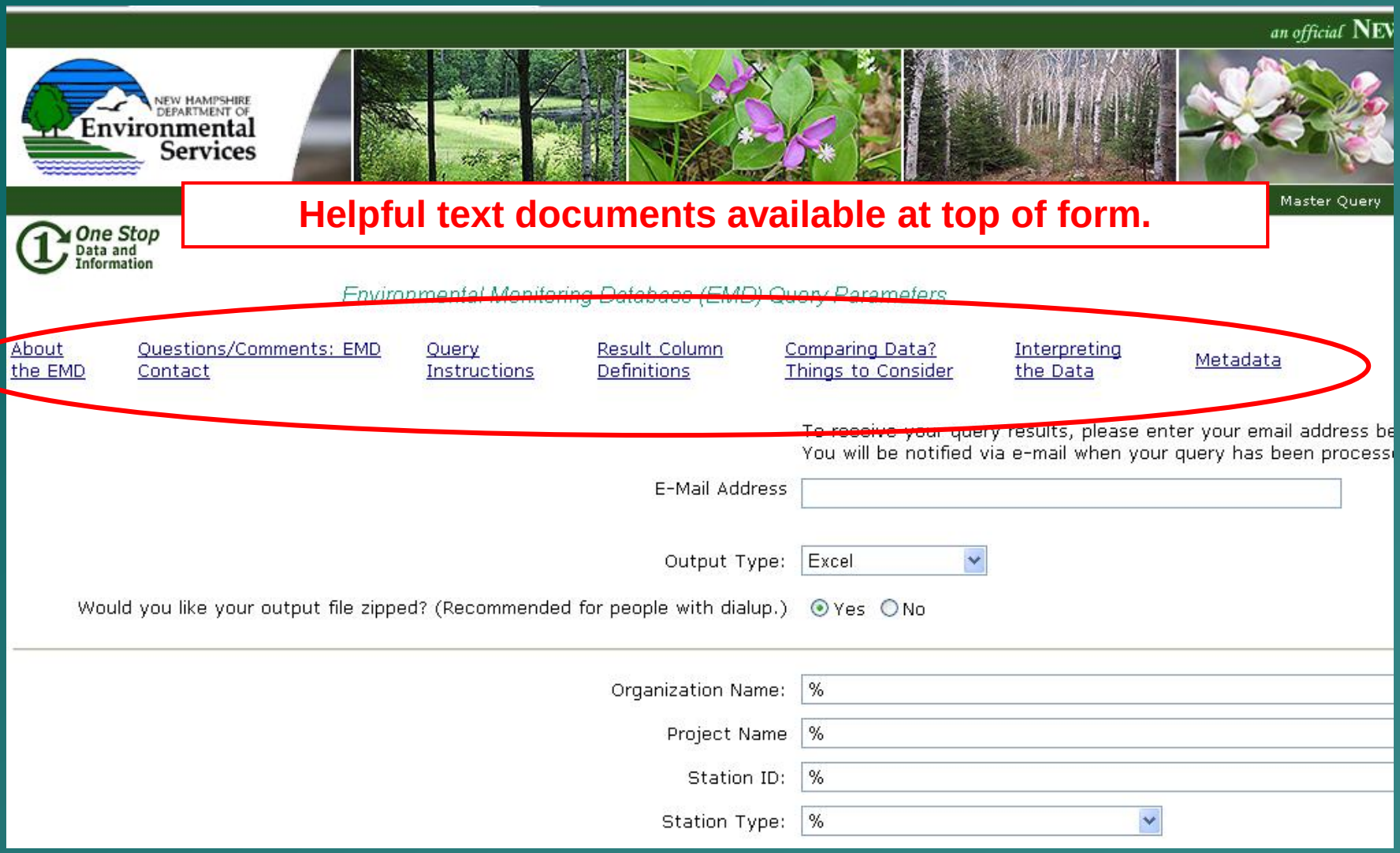
About the EMD | Questions/Comments: EMD Contact | Comparing Data? Things to Consider | Metadata

The Environmental Monitoring Database (EMD) contains both grab (single) samples and results from automated data loggers. These results must be queried for separately. Querying both types of data is recommended to obtain as much monitoring data as possible for the area, time frame etc. of interest.

A "Grab Sample" is one sample from any given sampling station, not collected as part of a continuous record of timed samples. An example would be a single sample collected from a sampling station during a two-week period.

"Time Series Results from Automated Data Loggers" is a set of results from instruments programmed to record measurements at specific time intervals over a given period of time. An example would be measurements taken automatically every 15 minutes during a two-week period.

Please select the type of data to query and then click on Go: Grab Samples Go



Helpful text documents available at top of form.

Put in email address and enter query criteria.

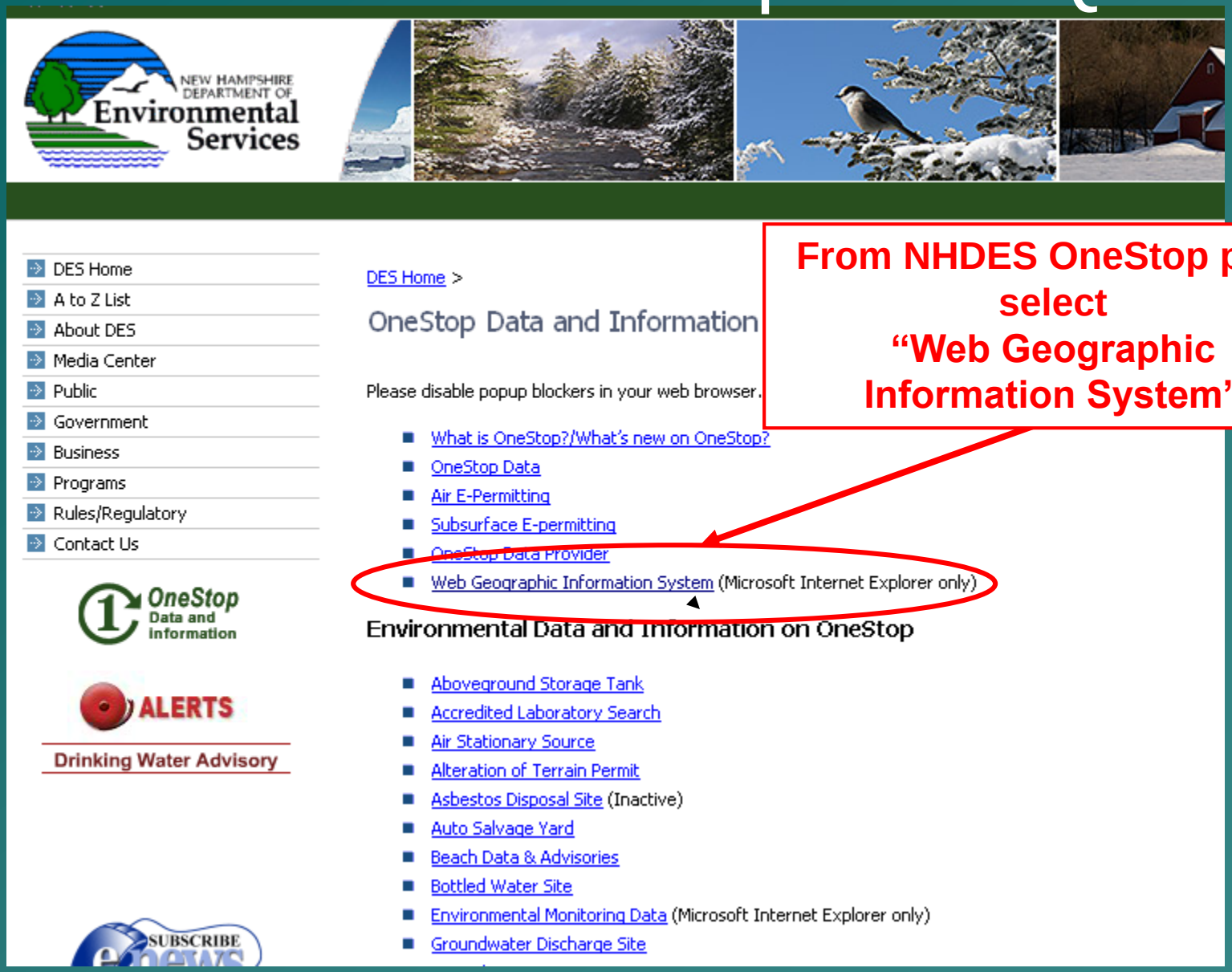
Some EMD OneStop things to consider

- Only final physical/chemical data is available – no biological data yet
- Don’t enter a value in every query column because “less is more”
- Don’t enter conflicting query criteria such as station type = Lake/Pond and River Name = Merrimack River. Criteria are evaluated as “AND” statements not “OR”.
- May need to refine query by date or location to get # of results below 65,000 row limit
- Read the help texts linked at top of web pages
- Enter a valid email address

What do you get from this query?

- Data returned in an Excel spreadsheet in multiple worksheets
- First worksheet contains data owner, project, monitoring location, and basic activity info
- Second (or more) worksheet(s) contains result info.
- Each result has several metadata columns.

NHDES GIS OneStop EMD Query



From NHDES OneStop page select "Web Geographic Information System"

New Hampshire Department of Environmental Services

OneStop Data Provider | One Stop Data Retrieval | File Review

OneStop Web Geographic Information System

Welcome

The purpose of this application is to provide access, via the World Wide Web, to GIS data that are developed by the NH Department of Environmental Services and other state and federal government agencies under the auspices of NH GRANIT (the New Hampshire Geographically Referenced Analysis and Information Transfer System).

Access to Data

Data that are accessible through the Onestop Web GIS include:

- Air Stationary Sources
- Aboveground Storage Tank Facilities
- Asbestos Disposal Sites
- Automobile Salvage Yards
- Conservation Lands
- Dams
- pply Sources*
- itoring Sites**
- ssification Areas
- Generators
- y
- Local Resource Protection Priorities
- Non-point Sources
- NPDES Outfalls
- Outstanding Resource Water Watersheds
- Public Water Supply Sources*
- Registered Water Withdrawals*
- Remediation Sites
- Surface Water Impairments with 1-Mile Buffer For Development Projects
- Underground Storage Tank Facilities
- Water Well Inventory*
- Water Supply Intake Protection Areas*
- Watersheds

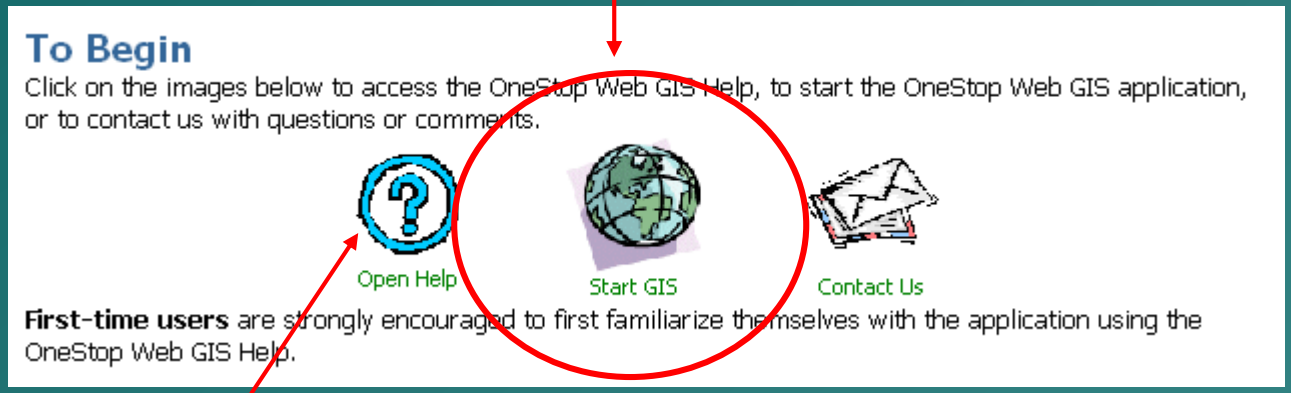
Need to request, and be approved, to see sensitive EMD data (wells)

*In the interest of Homeland Security, these data are available only to Registered Users of NHDES OneStop Data Retrieval/Data Provider systems. The OneStop Data Retrieval/Data Provider Registration Form is available online.

**Environmental Monitoring Sites pertaining to water wells are, for Homeland Security reasons, available only to Registered Users of NHDES OneStop Data Retrieval/Data Provider systems.

Scroll down to “Start GIS”

Click here.



Help text is available.

New Hampshire Department of Environmental Services

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OneStop Web Geographic Information System

User Registration

Full access to the OneStop Web GIS is available only to Registed Users of the NHDES OneStop Data Retrieval/Data Provider systems. The OneStop Data Retrieval/Data Provider Registration Form is available online.

You may enter as an unregistered guest, but selected, sensitive data will be unavailable to you.

Login (if have access to sensitive data) or enter as unregistered guest.

Enter User Information

☐ Enter as unregistered guest.

User Name

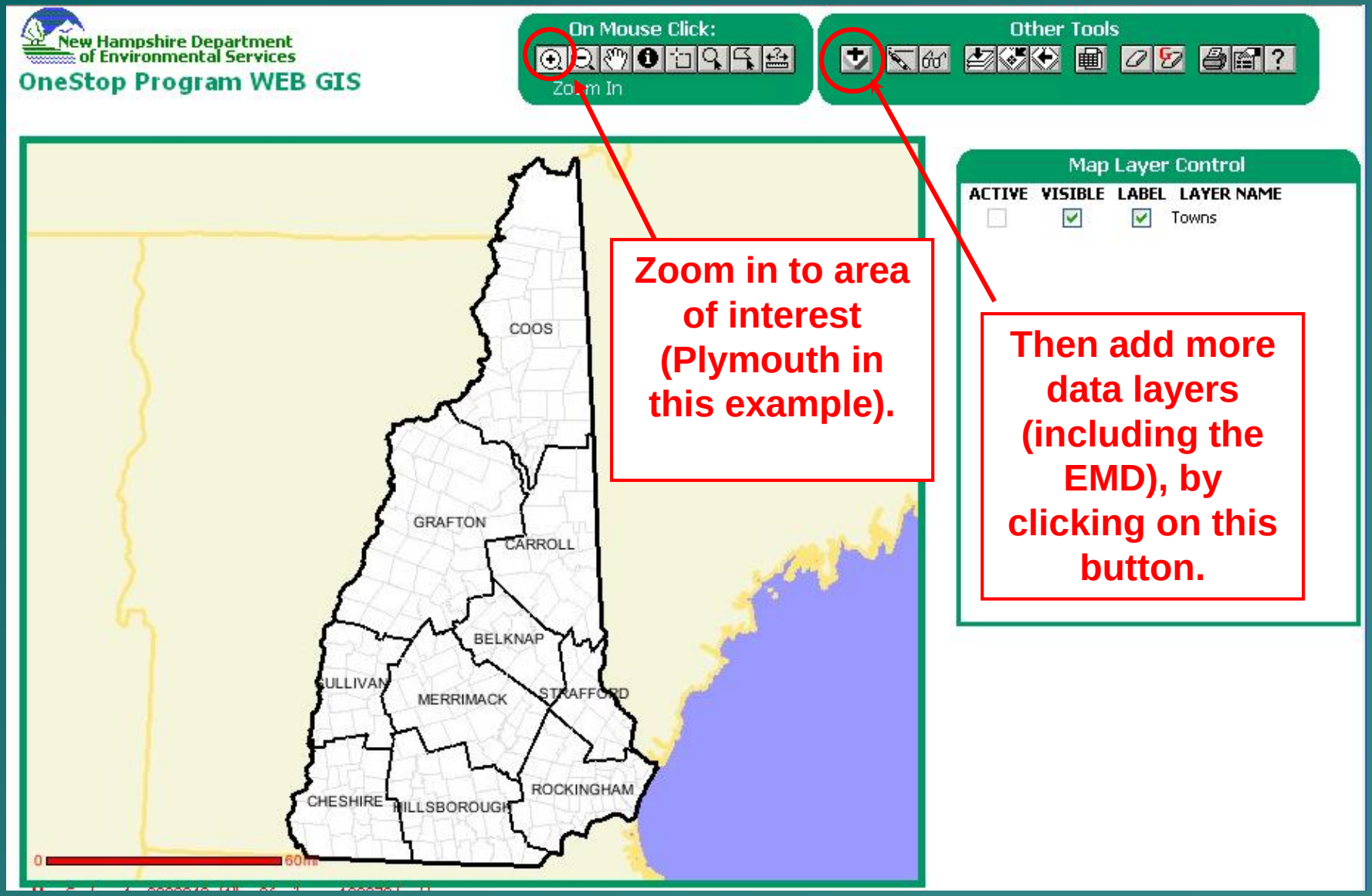
PIN

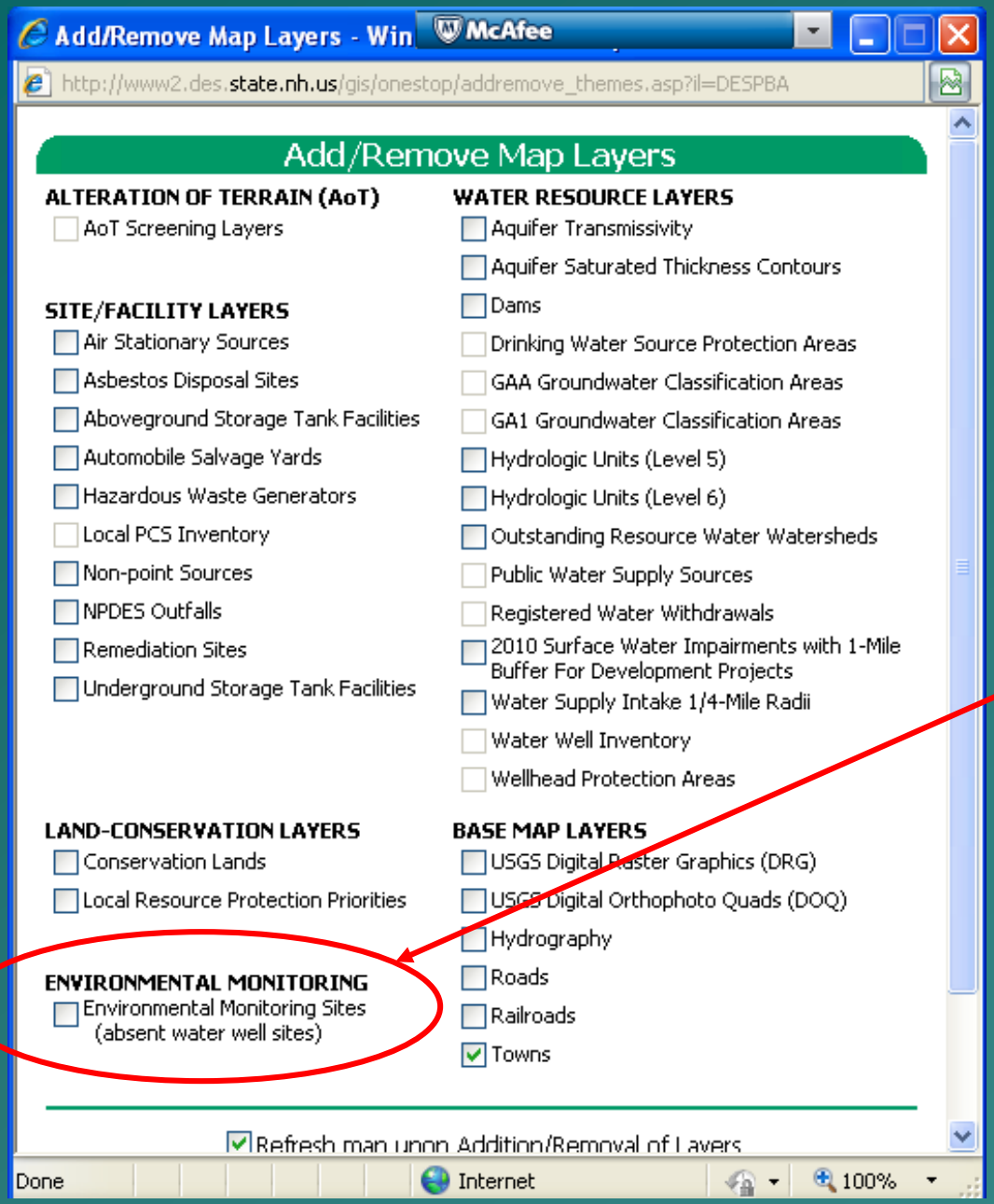
Password

LOGIN

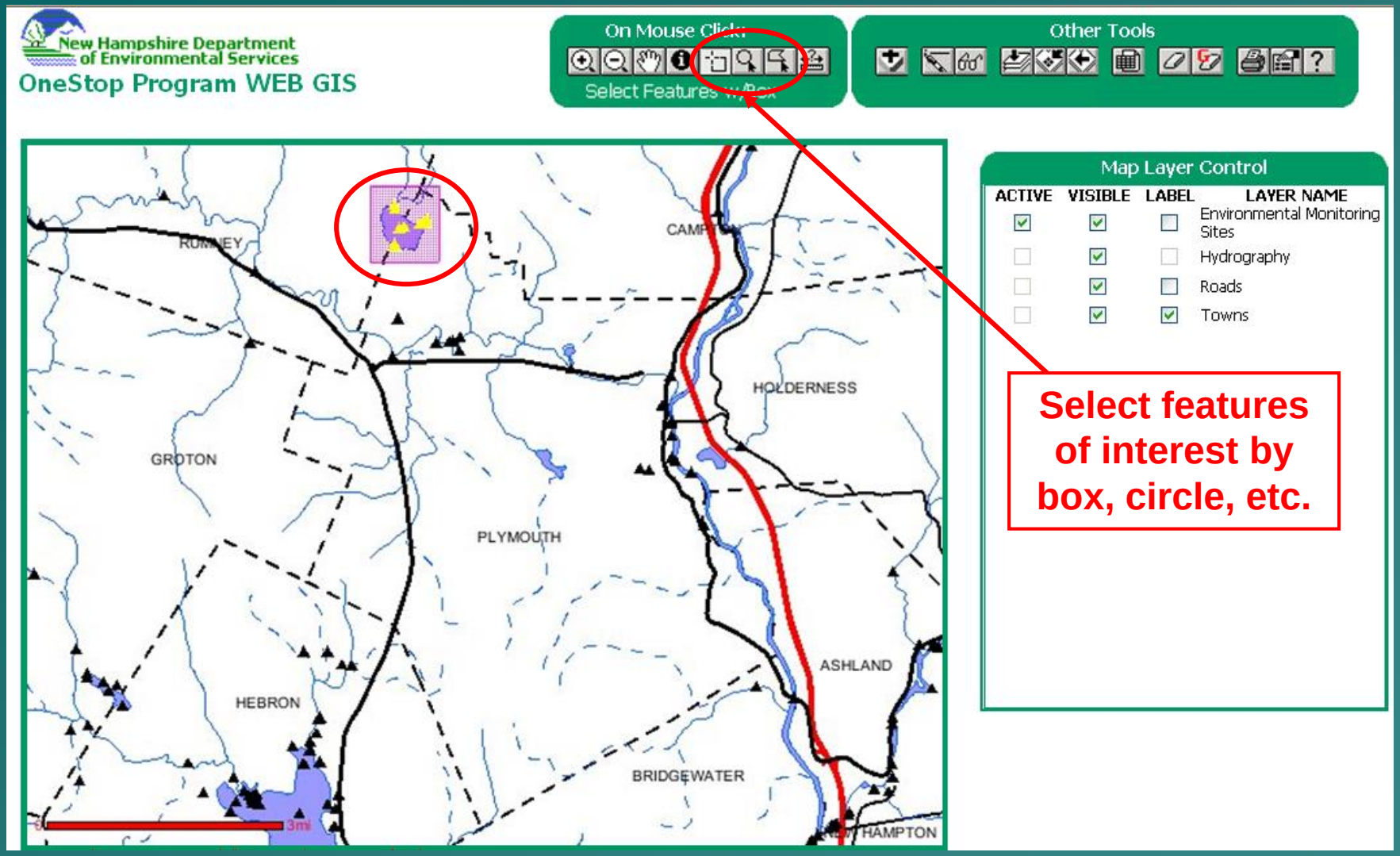
Forgot your password?

Need help logging in?


New Hampshire Department of Environmental Services
OneStop Program WEB GIS
On Mouse Click:
Zoom In
Other Tools
Map Layer Control
ACTIVE VISIBLE LABEL LAYER NAME
Towns
COOS
GRAFTON
CARROLL
BELKNAP
SULLIVAN
MERRIMACK
STRAFFORD
CHESHIRE
HILLSBOROUGH
ROCKINGHAM
0
60mi
Zoom in to area of interest (Plymouth in this example).
Then add more data layers (including the EMD), by clicking on this button.



Check the box for "Environmental Monitoring Sites" and any other data layers of interest.


New Hampshire Department of Environmental Services
OneStop Program WEB GIS
On Mouse Click:
Select Features w/Box
Other Tools
Map Layer Control
ACTIVE
VISIBLE
LABEL
LAYER NAME
Environmental Monitoring Sites
Hydrography
Roads
Towns
Select features of interest by box, circle, etc.
ROMNEY
CAMPTON
HOLDERNESS
GROTON
PLYMOUTH
ASHLAND
HEBRON
BRIDGEWATER
HAMPTON
3mi

Feature Selection Results

Environmental Monitoring Sites
Features returned: 9 of 15710.

STATION Click on the ID link to view sampling results.	PROJECTS
ID: LOOPLYB1 **NAME:** LOON LAKE-GARGAZ INLET BEACH **TOWN:** PLYMOUTH **TYPE:** LAKE/POND **WATERBODY ID:** NHLAK700010307-01 **ACTIVE:** YES	VOLUNTEER LAKE ASSESSMENT PROGRAM [NHDES]
ID: LOOPLYB2 **NAME:** LOON LAKE-MILL BROOK BEACH **TOWN:** RUMNEY **TYPE:** LAKE/POND **WATERBODY ID:** NHLAK700010307-01 **ACTIVE:** YES	VOLUNTEER LAKE ASSESSMENT PROGRAM [NHDES]
ID: LOOPLYD **NAME:** LOON LAKE-DEEP SPOT **TOWN:** PLYMOUTH	CHL-A METHOD STUDY [NHDES] VOLUNTEER LAKE ASSESSMENT PROGRAM [NHDES] LAKE TROPHIC SURVEYS [NHDES]

Click on station ID of interest to see monitoring details.

Display/Query Layer:
Environmental Monitoring Sites

STATION ID:
STATION:
TOWN:
STAT. TYPE:
WATERBODY ID:

Close | Clear Form | Query | Refresh Map | Options | Save as Text

EMD SAMPLING RESULTS

STATION ID:	LOOPLYB2
STATION:	LOON LAKE-MILL BROOK BEACH RUMNEY
DISPLAYING:	8 records.

Filter By Parameter: None

Filter By Date: Starting: Ending:

Apply Filter

DATE	ACTIVITY ID	PARAMETER	RESULTS	METHOD	STATUS	RESULTS VALID
6/22/2003	VL06220344	ESCHERICHIA COLI	< 5 #/100ML	9213-D	FINAL	YES
8/20/2006 10:30 AM	2006-4797	ESCHERICHIA COLI	110 #/100ML	9213-D	FINAL	YES
7/1/2007 12:00 AM	P2007-65	ESCHERICHIA COLI	= 114 #/100ML	10029	FINAL	YES
6/22/2008 10:00 AM	P2008-1	ESCHERICHIA COLI	= 37 #/100ML	10029	FINAL	YES
7/1/2007 12:00 AM	P2007-65	PH	6.71	4500-H+B	FINAL	YES
7/1/2007 12:00 AM	P2007-65	PHOSPHORUS AS P	.02 MG/L	365.3	FINAL	YES
7/1/2007 12:00 AM	P2007-65	SPECIFIC CONDUCTANCE	36.41 UMHO/CM	2510B	FINAL	YES
7/1/2007 12:00 AM	P2007-65	TURBIDITY	1.161 NTU	2130-B	FINAL	YES

Filter monitoring results by analyte or by date.

Some GIS OneStop things to consider

- Old program – can be a little glitchy
- Finalized data only
- No data logger or biological data

Future EMD plans

- Improve and make easier to use the EMD OneStop
- Make more data (biological) available through OneStop
- Bring more parts of NHDES into the database
- Get more data. Need a lot more data across the state to do waterbody assessments. Lots of waterbodies have “insufficient data to assess”.

Want to be a data provider?

- Need data in text, Excel, or Access format
- Provide metadata in documents or as part of dataset
- Be available to answer questions if we have them.
- Become a registered data provider or send Melanie the files.

Benefits of contributing data

- Data security – part of a long lasting repository of data
- Data will be enhanced as much as possible to meet national data standards (becomes a more complete dataset and will have the benefit of being reviewed by a second set of eyes)
- Surface water data will be considered in waterbody assessment process and help fill a void in monitoring data
- Data available on internet through One Stop queries
- Data can be exported to EPA's STORET/WQX database and be available through national data warehouse.

Questions?

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