



# **User's Guide for the Discharge Monitoring Report (DMR) Pollutant Loading Tool**

## **EZ Search, Facility Search, and Advanced Search**

**Version 1.0**

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## 1. OVERVIEW

You have a new tool for analyses of wastewater pollutant discharge data. This tool, the Discharge Monitoring Report Pollutant Loading Tool (abbreviated “Loading Tool”) provides you with pollutant loadings you can use to answer questions about the amount and toxicity of pollutant discharges to U.S. waters.

The tool calculates pollutant loadings from monitoring and permit data from EPA’s Permit Compliance System (PCS) and Integrated Compliance Information System for the National Pollutant Discharge Elimination System (ICIS-NPDES). The tool also includes wastewater pollutant discharge data from EPA’s Toxics Release Inventory (TRI). Data are available for the years 2007 through 2010. This tool helps you access wastewater pollutant discharge data, if you are a general user or if you are a more technical user:

- If you are a **general user**, you can use the *EZ Search* or *TRI Search* to quickly find discharge monitoring data or TRI data based on simple searches.
- If you are a **technical user** (e.g., NPDES permit writer, watershed modeler, or regulatory agency), you can use the *Advanced Search* to access more detailed discharge monitoring data that you can download in a comma-separated value (CSV) file for further analysis in your own software application.

You can navigate the Loading Tool home page using the eight tabs described in Table 1-1.

**Table 1-1. Loading Tool Tabs and Descriptions**

Tab	Description
Overview	Provides general information about the tool including: (1) How to Navigate the Tool; (2) Loading Tool Data Sources; (3) Data Scope and Limitations; and (4) 2010 Beta Release and Testing.
EZ Search	General users can perform simple searches using DMR data. Results are displayed on a Web page in “top ten” lists to help you determine which discharges are important, which facilities and industries are producing these discharges, and which watersheds are impacted.
TRI Search	Similar search interface and display results as EZ Search but the data source is TRI data
Facility Search	Provides direct access to facility-level information, one facility at a time.
Advanced Search	Designed for technical users and provides increased flexibility on search criteria and data to be downloaded as a CSV file for post processing by the user.
Data Explorer	General users can create a thematic map of the United States in which states are shaded in blue in proportion to the user’s search criteria. For example, the user can visually see the number of POTWs in each state with states shaded in dark blue having the most number of POTWs.
Everyday Searches	Provides access to trend charts and other ‘canned’ searches (by geographic location, industry sector, and/or pollutant) of DMR data that are often used by technical users. In particular, the “Facility Loading Calculations” on this tab details exactly how the tool calculates annual pollutant loads using DMR data
Users Guide/Technical Documents	Provides the instructions, guides, and metadata to assist users with the Loading Tool.

This user guide provides guidance for using the EZ Search, Facility Search, and Advanced Search. You can find guidance for using the Data Explorer feature in the *User's Guide for using the Data Explorer Tab*; the Everyday Searches feature in the *User's Guide for using the Everyday Searches Tab*; and the TRI Search in the *User's Guide for using the TRI Search Tab*.

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## 2. EZ SEARCH

You can access pollutant loadings calculated from Discharge Monitoring Report (DMR) data quickly and easily using the EZ Search. The EZ Search can answer questions such as:

- Where is the discharge of interest (Location Search and Watershed Search option)?
- What is the pollutant of interest (Pollutant Search option)?
- Who is the discharger of interest (Industry Search option)?

This guide provides instructions and tips for using the EZ Search option and provides examples to illustrate how to combine these search options to produce results that answer more detailed questions. The following search options are available in the EZ Search:

- Reporting Year Option;
- Location Search Option;
- Watershed Search Option;
- Pollutant Search Option;
- Industry Search Option; and
- Using Search Options in Combination.

### 2.1 Reporting Year Option

Through the EZ Search, you can access pollutant loadings for 2007, 2008, 2009, or 2010 one year at a time. You can select the year of interest using the menu shown in Figure 2-1.

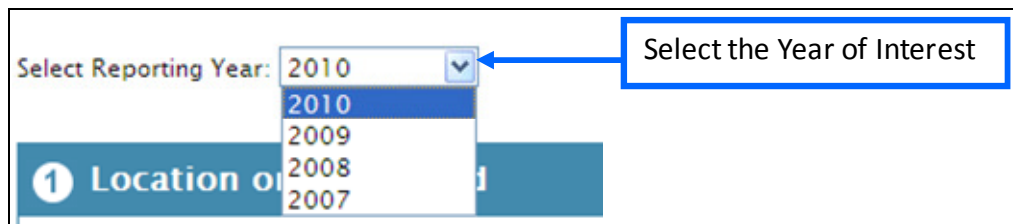


Figure 2-1. Year Search Option

### 2.2 Location Search Option

By default, the EZ Search reports results for nationwide loadings. A nationwide search includes all 50 U.S. states and U.S. territories and tribes. You can narrow the search to the specified geographic boundaries by specifying an EPA Region, state, county, city, or zip code, as shown in Figure 2-2.

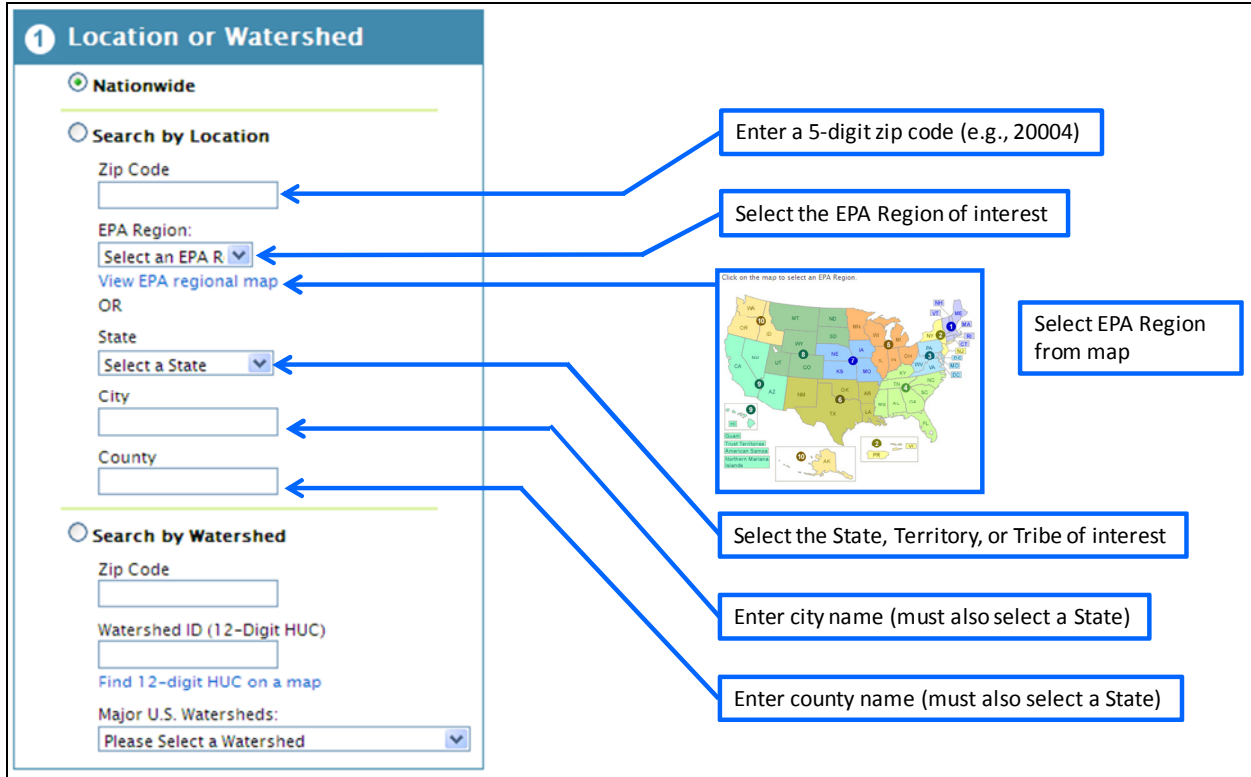


Figure 2-2. Location Search Option

### 2.2.1 Tips for Searching by Location

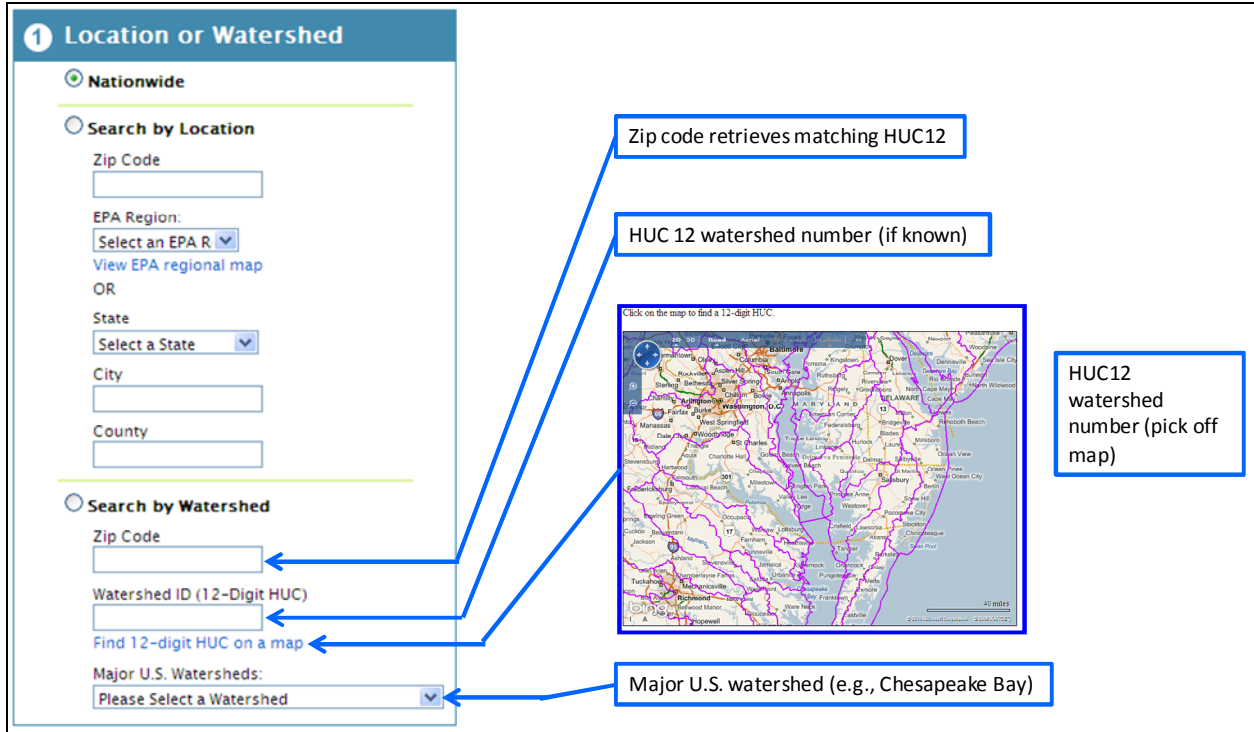
- The search fields in the DMR Pollutant Loading Tool provide options for retrieving information for the location of interest. Entering information for all location fields is unnecessary.
- Begin with broad search criteria (e.g., state) and narrow the search based on the results of the broad search. City names and county names must match exactly with the city and county names in the Permit Compliance System (PCS) database and Integrated Compliance Information System National Pollutant Discharge Elimination System (ICIS-NPDES) database. Therefore, if you enter a city or county name that is different than the PCS or ICIS-NPDES databases, your search may return no results.
- Avoid entering redundant search criteria. For example, specifying an EPA region when a state has already been selected is unnecessary.
- Zip Code, City, and County information are not populated for some facilities in the PCS and ICIS-NPDES databases. Therefore, searching on one of these fields may produce no results, even if a facility is present at the specified location.

### 2.3 Watershed Search Option

As an alternative to searching by location, you can filter DMR loadings data using the EZ Search by Watershed option. The EZ Search defines watersheds using the 12-digit hydrologic unit code (HUC-12). You can specify a watershed of interest by entering a zip code, entering a



HUC-12 code, or by selecting a major U.S. watershed from the drop down menu, as shown in Figure 2-3. For example, users can easily focus their search to only include dischargers in the Chesapeake Bay watershed. The “Users Guide/Technical Documents” tab provides maps showing the geographic extent of each “major U.S. watershed.”



**Figure 2-3. Watershed Search Option**

**2.3.1 Tips for Searching by Watershed**

- The search fields provide three methods for specifying a watershed of interest. Do not enter information in more than one field.
- Begin with broad searches (e.g., zip code or major U.S. watershed) and narrow the search based on the results of the broad search. Approximately 50 percent of the NPDES permit IDs in PCS and ICIS-NPDES do not have a matching HUC-12 in the DMR Pollutant Loading Tool. Therefore, searching on a specific HUC-12 code may produce no results, even if a facility discharges to that watershed.

**2.4 Pollutant Search Option**

By default, the EZ Search reports results for all pollutants. These include approximately 1,000 pollutant parameters including specific chemicals (e.g., phenol), bulk parameters (e.g., biochemical oxygen demand), temperature, and wastewater flow. Specifying a single pollutant of interest or selecting a pollutant category, as shown in Figure 2-4, will narrow the search.

The screenshot shows a web interface for searching pollutants. It has a header '2 Pollutant' and three main sections: 'All Pollutants' (selected), 'Specify Pollutant', and 'Pollutant Categories'. The 'Specify Pollutant' section has two input fields: 'Pollutant Name (or partial name)' and 'Chemical Abstract Service Number (CAS) (without dashes)'. The 'Pollutant Categories' section has a list of radio buttons: Metals, Nitrogen, Organic Enrichment, Pathogen Indicators, Phosphorus, Priority Pollutants, Solids, Temperature, and Wastewater Flow. Three blue callout boxes with arrows point to these sections:

- Callout 1 (points to the Pollutant Name field): Enter full or partial pollutant name (e.g., nitr). Loading Tool will return a list of pollutants that contain the specified text string.
- Callout 2 (points to the CAS field): Enter the Chemical Abstract Service Number (CAS) (without dashes) for the pollutant of interest (e.g., 7439976).
- Callout 3 (points to the Pollutant Categories list): Select one pollutant category from the list. The Loading Tool output will provide the aggregated load for the selected category.

**Figure 2-4. Pollutant Search Option**

### 2.4.1 Tips for Searching by Pollutant

- If possible, try to identify the Chemical Abstracts Service (CAS) number for the pollutant of interest. A CAS Number look-up is provided in the Crosswalk Search (see Crosswalk Search User Guide). Chemical names in PCS and ICIS-NPDES are not standardized and may include common names or abbreviations. As a result, searching on a chemical name may return no results, even when data for the pollutant are present in the databases.
- For pollutants that do not have CAS Numbers, such as biochemical oxygen demand, try entering a partial name. Names of pollutants may be abbreviated in PCS or ICIS-NPDES, and entering the complete pollutant name may return no results.
- Entering certain parameters, such as “fecal coliform bacteria” or “whole effluent toxicity,” will not return results because these parameters are reported in units that cannot be expressed as mass quantities. You can view aggregated discharges pathogen indicators (such as fecal coliform bacteria) in units of “counts per 100mL” by selecting “pathogen indicators” in the Pollutant EZ Search option; however, because pathogen indicators require a unique calculation methodology, they are excluded from the results from other EZ Search Options.

## 2.5 Industry Search Option

By default, the EZ Search reports results for all industries. The results include discharge data from approximately 140,000 publicly- and privately-owned facilities with operations covering more than 900 Standard Industrial Classification (SIC) Codes. You can limit the results to discharges for municipal wastewater treatment plants (publicly-owned treatment works, i.e., POTWs) or industrial facilities. You can further narrow searches for industrial dischargers to

only include results for a specific Point Source Category, 2-digit SIC code, 4-digit SIC code, or 2-digit NAICS code.

The screenshot shows the 'Industry' search options interface. It features three radio buttons for selecting the type of search: 'All Point Sources' (selected), 'Publicly Owned Treatment Works (POTWs) Only', and 'Industrial Point Sources (non-POTW)'. Below these are several search fields: 'Point Source Category' (dropdown menu), 'Industrial Sector ID (2-Digit SIC Code)' (dropdown menu), 'Enter a Industrial Sector ID (4-digit SIC Code)' (text input), 'SIC Code lookup' (text input), and '2-digit NAICS code' (dropdown menu). Blue callout boxes with arrows point to these fields, providing instructions: 'Select to only see discharges for publicly owned wastewater treatment facilities' points to the POTWs radio button; 'Select to only see discharges for industrial facilities' points to the Industrial Point Sources radio button; 'To narrow Industrial Point Sources search:' is a header for a box containing instructions for the dropdown menus: 'Select a Point Source Category; or', 'Select a 2-digit SIC Code; or', 'Enter a 4-digit SIC Code; or', and 'Select a 2-digit NAICS Code.'.

**Figure 2-5. Industry Search Option**

### 2.5.1 Tips for Searching by Industry

- The menus and search fields provide options for selecting an industry of interest. Do not specify search criteria in multiple fields. For example, selecting a 2-digit SIC code is unnecessary if a 4-digit SIC code has been entered. In addition, Point Source Category classifications and SIC code classifications are not a one-to-one match. Therefore specifying both a Point Source Category and a 2-digit SIC code for a search may return no results.
- Begin with a broad search and then further refine the search to the 4-digit SIC code or Point Source Category of interest, based on the results. PCS and ICIS-NPDES do not have DMR data for all industries. For example, the databases may have no DMR data for industries consisting only of minor dischargers.
- It should be noted that not all facilities in SIC code 4952 (“Sewerage Systems”) are POTWs. POTWs are owned by the state or municipality. Privately-owned treatment works, Federally-owned treatment works, and other treatment plants not owned by municipalities are not considered POTWs. Therefore a search on “SIC code = 4952” will not necessarily yield the same results as selecting the POTW radio button.

### 2.6 Using Search Options in Combination

In addition to using the Year, Location, Watershed, Pollutant, and Industry EZ Search options separately, you can use the EZ Search options in combination to answer questions, such as the following:

1. How many U.S. power plants have limits for arsenic?
2. Which industrial sectors in the Great Lakes Region discharge the largest amounts of mercury?
3. Which U.S. watersheds receive the largest nitrogen discharges from municipal wastewater treatment plants?
4. What are the “top ten” pollutants discharged by petroleum refineries in EPA Region 6?

The following examples illustrate how to use the EZ Search to answer each of these questions.

### 2.6.1 EZ Search Example 1: How many U.S. power plants have limits for arsenic in 2009?

To use the EZ Search to determine how many U.S. power plants have limits for arsenic, enter search criteria as shown in Figure 2-6 and click Search.

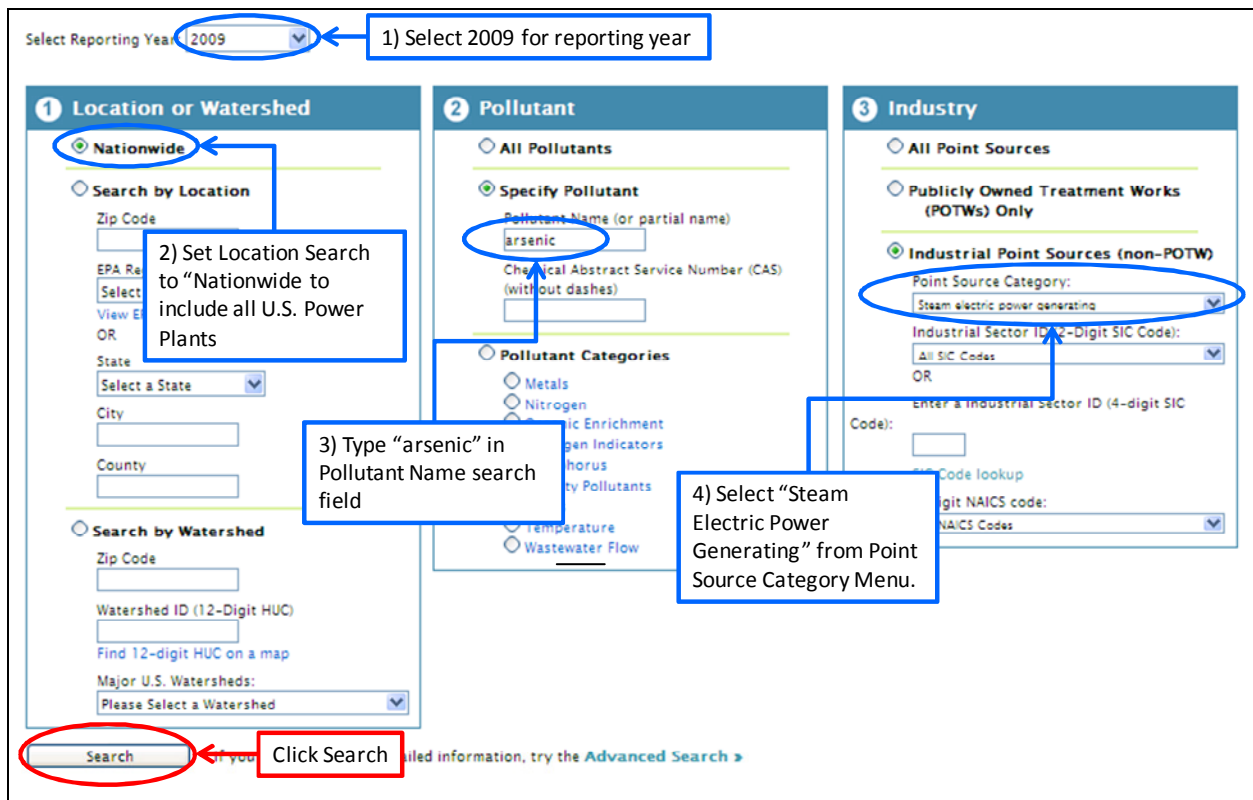


Figure 2-6. EZ Search Example 1 – Criteria

The EZ Search displays a table of search statistics at the top of the EZ Search Results page, shown in Figure 2-7. The Search Statistics table provides information about the total number of power plants in the U.S. and the number of those power plants that have permit and DMR data for arsenic. The Search Statistics table also provides access to detailed facility information and permit limit data. By clicking on “View All Facilities”, you can view an alphabetical list of facilities that are included in your search results. Each facility name in the list is hyperlinked to the Facility

Detail Page. On the Facility Detail Page, you can click on the green “P” icon to view the arsenic limits (as well as other pollutant limits) for the selected facility.

The screenshot shows the EZ Search interface with several callouts explaining key features:

- Search statistics:** Two tables show facility counts. The first table, 'Facilities Counts (Based on Facility Data)', has columns for All Facilities (1,953), Majors (573), Minors (1,380), With Facility Info Only (1,813), and With Facility and Permit Data (140). A callout states: "This result displays the number of power plants that monitor for arsenic but do not have permit limits" pointing to the 'With Facility Info Only' column.
- The second table, 'Facilities Counts (Based on Facility and Permit Data)', has columns for Majors (133), Minors (25), With Monitoring Requirements Only (80), With Monitoring Requirements and Effluent Limits (60), and Facilities with Facility, Permit Data, and DMR Data in ICIS/PCS (140). A callout states: "This result displays the number of power plants that have permit limits for arsenic" pointing to the 'With Monitoring Requirements and Effluent Limits' column.
- All Facilities:** A table listing facilities. A callout says: "Click to view an alphabetical list of facilities for the counts." pointing to the 'View All Facilities' link.
- Facility Information (DMR):** Details for AES ALAMITOS L L C, LONG BEACH, CA, 90803. A callout says: "Click hyperlinked facility name to see Facility Detail Page" pointing to the facility name.
- Permit Limits:** A table showing limits for various pollutants. A callout says: "Click 'View Permit Limits'" pointing to the 'View Permit Limits' link.

Facility Counts	All Facilities	Majors	Minors	With Facility Info Only	With Facility and Permit Data
Facility Counts:	1,953	573	1,380	1,813	140

Facilities Counts	Majors	Minors	With Monitoring Requirements Only	With Monitoring Requirements and Effluent Limits	Facilities with Facility, Permit Data, and DMR Data in ICIS/PCS
Facility Counts:	133	25	80	60	140

NPDES ID	Facility Name	City, State	Major/Minor	Facility Info Only	Has DMR Data	Has Permits Limits
HI0021130	99-416 KEKOA PLACE, OIL ALONG ROADWAY	KAPOLEI, HI	Minor		Y	Y
CA0001139	AES ALAMITOS L L C	LONG BEACH, CA	Major		Y	Y

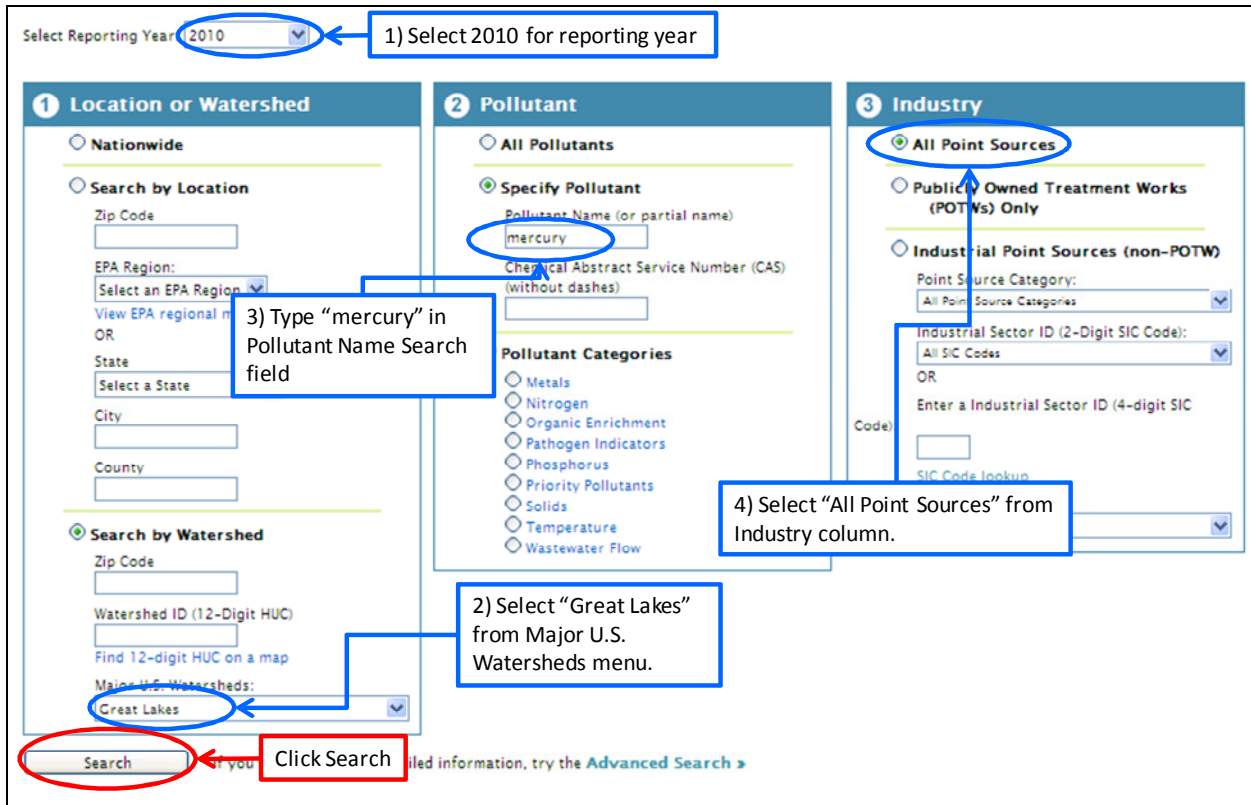
<b>AES ALAMITOS L L C, LONG BEACH, CA, 90803</b>	
NPDES ID: CA0001139	Latitude: 33.768889
FRS ID: 110000522113	Longitude: -118.101111
TRI ID(s):	Facility Design Flow (MGD):
Facility Type: NON-POTW	Actual Average Facility Flow (MGD): 1.275
Permit Type: NPDES Individual Permit	4-Digit SIC Code: 4911 - ELECTRICAL SERVICES
Major/Minor Indicator: Major	NAICS Code: 2211 -
Permit Issuance: STATE OF CALIFORNIA	Likely Point Source Category: 423 - Steam electric power generating
Approved Pretreatment Program: N/A	<a href="#">View Enforcement Compliance Report</a>
Combined Sewer Overflow (CSO) Outfall: N/A	<a href="#">View Effluent Limiting Conditions</a>
County: LOS ANGELES	<a href="#">View Permit Limits</a>
Congressional District: California's 38th District	

Pollutant Name	Limit Quantity 1 (lb/day)	Limit Quantity 1 Basis	Limit Quantity 2 (lb/day)	Limit Quantity 2 Basis	Limit Conc 1 (mg/L)	Limit Conc 1 Basis	Limit Conc 2 (mg/L)	Limit Conc 2 Basis	Limit Conc 3 (mg/L)	Limit Conc 3 Basis
Arsenic, total recoverable							0.031	Avg	0.16	Max
BOD, 5-day, 20 deg. C							30	Avg	45	Max
Cadmium, total recoverable							0.005	Avg	0.024	Max

Figure 2-7. EZ Search Example 1 – Search Statistics Table and Access to Facility and Permit Data

2.6.2 Example EZ Search 2: Which industrial sectors in the Great Lakes Region discharge the largest amounts of mercury?

To use the EZ Search to determine which industrial sectors in the Great Lakes region discharge the largest amounts of mercury in 2010, enter search criteria as shown in Figure 2-8 and click *Search*.



**Figure 2-8. EZ Search Example 2 – Sectors with Mercury Discharges to Great Lakes**

The EZ Search will produce the EZ Search Results page. The second table in the EZ Search results presents Top SIC Discharges table, shown in Figure 2-9. The Top SIC Discharges table displays the total mercury discharges for each 4-digit SIC code. The table only displays the top ten SIC codes for mercury discharges. You can click *Download All Data* to download the full list of industries (classified by 4-digit SIC code) that report mercury discharges in the Great Lakes Region. You can also click *Compare to TRI* to compare the data to TRI discharges.

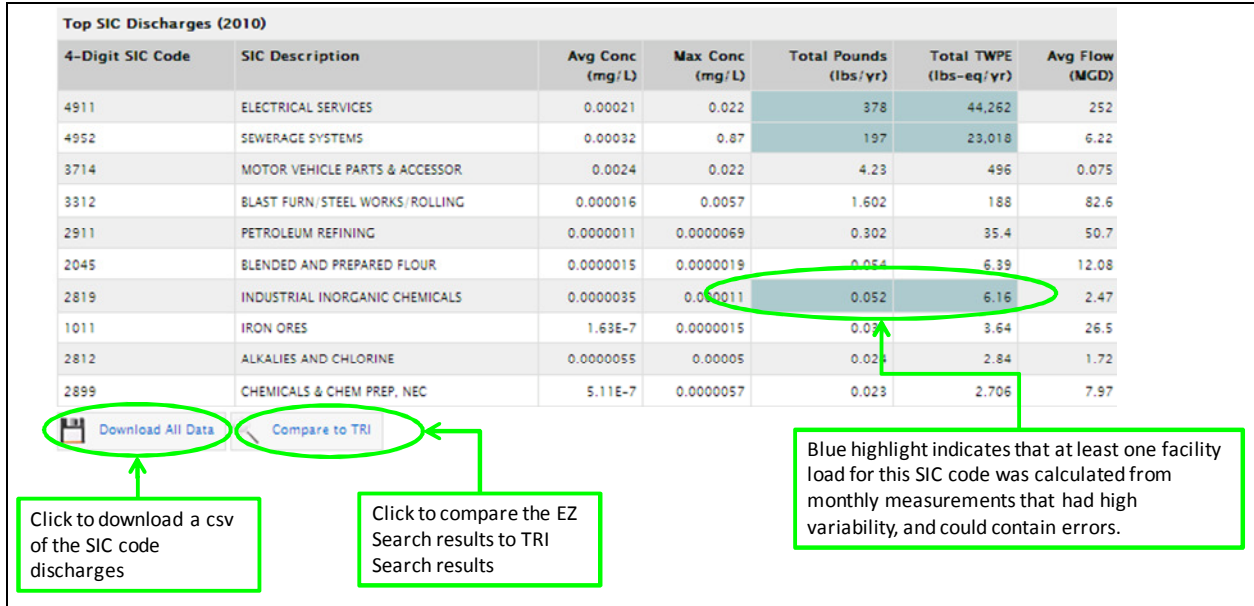
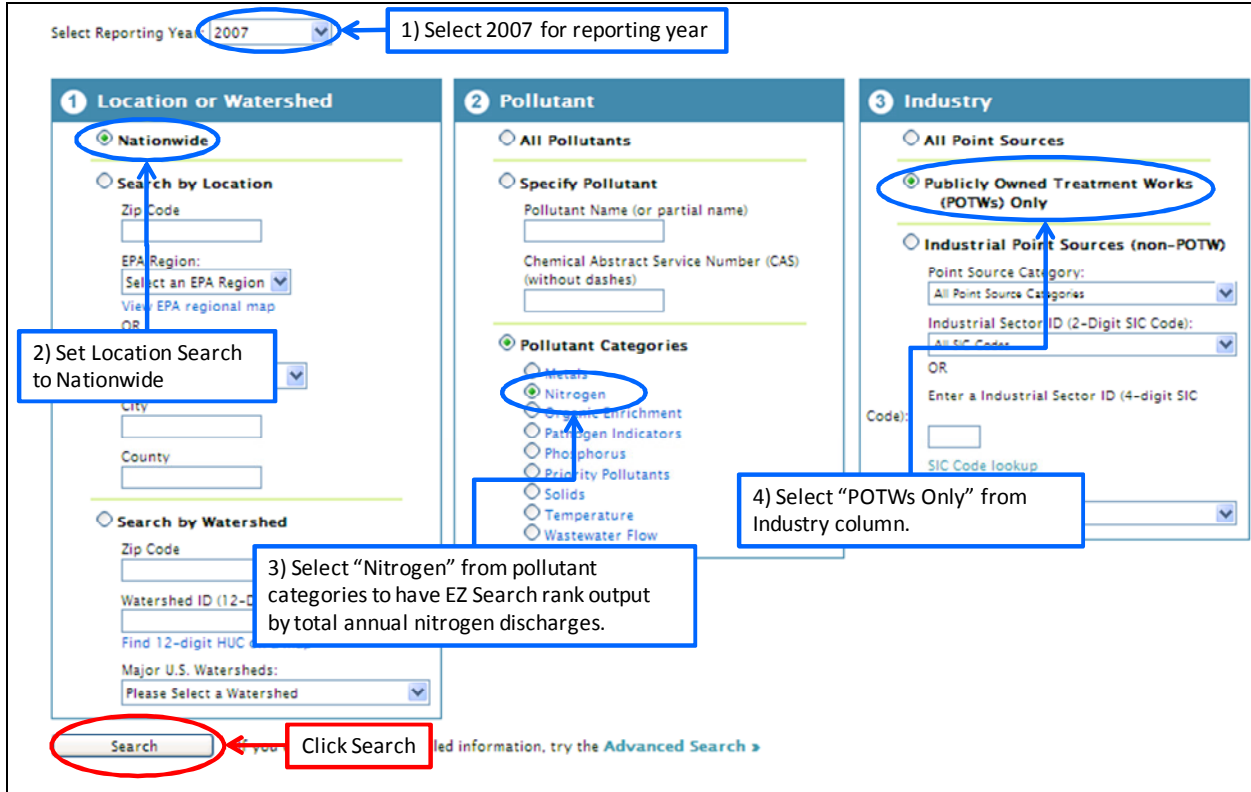


Figure 2-9. EZ Search Example 2 – Top SIC Discharges Results

2.6.3 Example EZ Search 3: Which U.S. watersheds receive the largest nitrogen discharges from municipal wastewater treatment plants?

To use the EZ Search to determine which U.S. watersheds receive the largest nitrogen discharges from municipal wastewater treatment plants in 2007, set up a search as shown in Figure 2-10 and click *Search*.



**Figure 2-10. EZ Search Example 3 – Nitrogen Discharges from Municipal Wastewater Treatment Plants**

When you click “Search”, the Loading Tool will produce total annual nitrogen loads for all facilities that are identified as POTWs in their facility information. The Loading Tool calculates the nitrogen load by aggregating loads for the following nitrogen forms:

- Total Nitrogen;
- Total Kjeldahl Nitrogen (TKN);
- Organic Nitrogen;
- Nitrate;
- Nitrite; and
- Ammonia.

When aggregating loads for the various nitrogen forms, the Loading Tool uses a selection hierarchy to select the nitrogen forms that best represent the total nitrogen load for each facility:

- If total nitrogen is reported, then the Loading Tool uses the Total Nitrogen load to represent the facility’s total nitrogen load;
- If Total Nitrogen is not reported and TKN is reported, then the Loading Tool calculates the facility’s total nitrogen load as:

$$TKN + Nitrate + Nitrite$$



- If Total Nitrogen and TKN are not reported and Organic Nitrogen is reported, then the Loading Tool calculates the facility’s total nitrogen load as:

$$\text{Organic Nitrogen} + \text{Ammonia} + \text{Nitrate} + \text{Nitrite}$$

- If Total Nitrogen, TKN, and Organic Nitrogen are not reported, then the Loading Tool calculates the facility’s total nitrogen load as:

$$\text{Ammonia} + \text{Nitrate} + \text{Nitrite}$$


Table 2-1 presents three examples of possible calculation scenarios for total nitrogen.

**Table 2-1. Total Nitrogen Load Calculation Examples**

Facility A		Facility B		Facility C	
<b>Total Nitrogen:</b>	<b>1,500 lb/yr</b>	Total Nitrogen:	lb/yr	Total Nitrogen:	lb/yr
TKN:	lb/yr	<b>TKN:</b>	<b>1,500 lb/yr</b>	TKN:	lb/yr
Organic Nitrogen:	lb/yr	Organic Nitrogen:	20 lb/yr	Organic Nitrogen:	lb/yr
Ammonia:	1,200 lb/yr	Ammonia:	lb/yr	<b>Ammonia:</b>	<b>1,200 lb/yr</b>
Nitrate:	lb/yr	<b>Nitrate:</b>	<b>200 lb/yr</b>	<b>Nitrate:</b>	<b>1,000 lb/yr</b>
Nitrite:	lb/yr	<b>Nitrite:</b>	<b>50 lb/yr</b>	<b>Nitrite:</b>	<b>50 lb/yr</b>
<b>Facility A's Total Nitrogen Load:</b>	<b>1,500 lb/yr</b>	<b>Facility B's Total Nitrogen Load:</b>	<b>1,750 lb/yr</b>	<b>Facility C's Total Nitrogen Load:</b>	<b>2,250 lb/yr</b>

The second table in the EZ Search Results is the Top Receiving Watersheds table, shown in Figure 2-11. The Top Receiving Watersheds table displays the total nitrogen discharges to each U.S. sub-watershed (classified by HUC-12). The discharges are shown in milligrams per liter and as pounds per year (lb/yr), and are ranked by descending pounds. The table only displays the ten sub-watersheds in the U.S. that receive the largest nitrogen discharges. You can click Download All Data to download the full list of sub-watersheds (classified by HUC-12 code) that receive nitrogen discharges from municipal wastewater treatment plants.

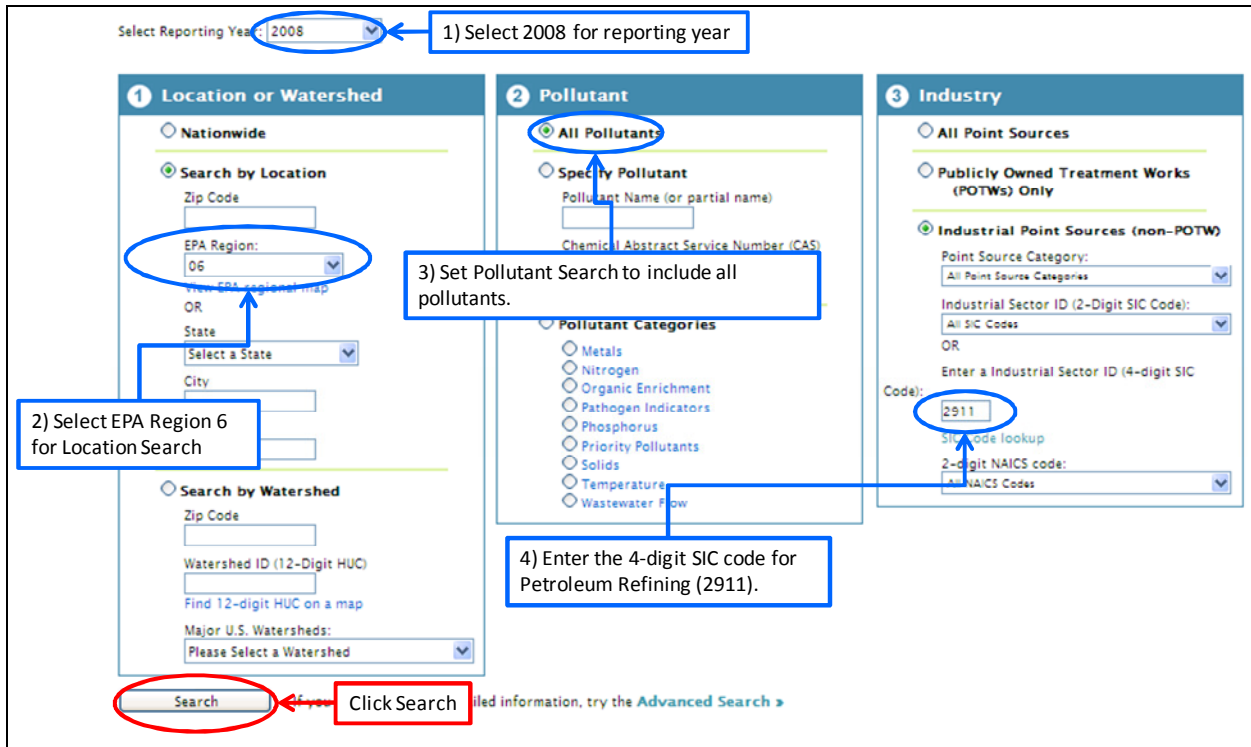
Top Receiving Watersheds (2007)						
HUC-12 Code	HUC Name	Avg Concentration (mg/L)	Max Concentration (mg/L)	Total Pounds (lbs/yr)	Total TWPE (lbs-eq/yr)	Avg Flow (MGD)
210100030111		7,506	29,800	361,301,314	0	1.97
180703010104		2,562	34,000	284,870,178	0	16.3
180701040601		12.3	42.6	36,261,389	0	286
180500040903	Colma Creek-Frontal San Francisco Bay Estuaries	1,232	1,711	34,731,071	0	9.22
180701040302		9.27	36	34,181,487	0	311
050302040501	Little Monday Creek	138,486	830,888	28,464,342	0	0.302
010900010402		14,009	24	25,837,098	0	127
020301030805		30.7	41.02	23,608,767	0	255
180702031003		28.4	30	19,927,707	0	230
180703041300		31.5	32.5	14,257,489	0	149

 [Download All Data](#)

**Figure 2-11. EZ Search Example 3 – Top Receiving Watersheds Results**

**2.6.4 Example EZ Search 4: What are the “top ten” pollutants discharged by petroleum refineries in EPA Region 6 in 2008?**

To use the EZ Search to determine the largest pollutant discharges for petroleum refineries in EPA Region 6 in 2008, specify search criteria as shown in Figure 2-12 and click Search.



**Figure 2-12. EZ Search Example 4 – Largest Discharges from Petroleum Refineries in Region 6**

The EZ Search will display the EZ Search Results page. The second table in the EZ Search Results is the Top Pollutants table, shown in Figure 2-13. The Top Pollutants table displays the pollutants with the highest discharges in terms of pounds and the pollutants with the highest toxic-weighted pound equivalents. The table only displays the top ten pollutants. Click Download All Data to view all Petroleum Refinery discharges for Region 6 in pounds or toxic-weighted pound equivalents. Click Compare to TRI to compare top pollutants to those in TRI.

EPA calculates TWPE using DMR data and pollutant specific toxic weighting factors (TWFs) in order to rank the relative toxicities of different pollutant discharges. Pollutants have different toxicities to human health and aquatic communities and the TWPE unit provides a relative measure of how the potential toxic nature of one pollutant compares against another pollutant. It is important to note that this value is not a measure of risk or potential for human health impacts. EPA presently lacks on a national scale the detailed exposure assessment data and tools necessary to complete a risk assessment with these DMR data (e.g., analyze for each

industrial facility the fate and transport of discharged pollutants in an actual waterbody, exposure pathways of pollutants to populations in a watershed, and uptake of the discharged pollutants).

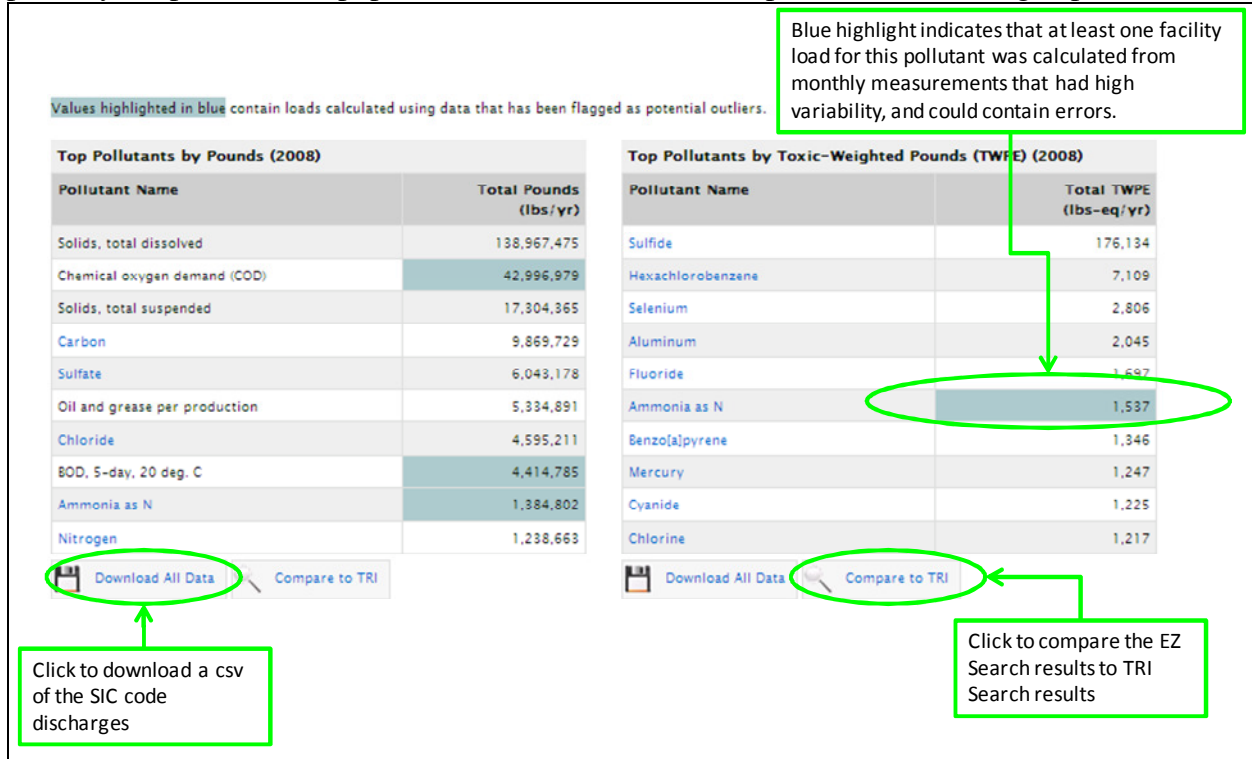


Figure 2-13. EZ Search Example 4 – Top Pollutants Results

To convert pollutant loadings into TWPE, EPA multiplies the pollutant mass (in pounds) by its toxic weighting factor (TWF). For example, total mercury (CAS No. 7439976) has a TWF equal to 117 TWPE/lbs-mercury while total copper (CAS No. 7440508) has a TWF equal to 0.63 TWPE/lbs-copper. Therefore a discharge of 1 pound of mercury equals 117 TWPE discharged while a discharge of 1 pound of copper equals 0.63 TWPE discharged. Not all pollutants have a toxic weighting factor (for example, Total Suspended Solids), which means that these pollutants do not have a toxicity score (i.e., TWPE = 0).

EPA’s Office of Water’s Engineering and Analysis Division (EAD) developed TWFs for use in its effluent limitations guidelines and standards (ELGs) development program to allow comparison of pollutants with varying toxicities using data from PCS, ICIS-NPDES, and EPA’s Toxics Release Inventory (TRI).<sup>1</sup> The DMR Pollutant Loading Tool makes this data more available to the public (as this facility specific TWPE discharges were previously available only through EPA’s docket system supporting its ELG program).

<sup>1</sup> See a general discussion of how EPA develops, calculates, and uses TWFs in the following document: “Toxic Weighting Factor Development in Support of CWA 304(m) Planning Process,” June 2006. [Available at: www.regulations.gov. Document No. EPA-HQ-OW-2004-0032-1634].

### 3. FACILITY SEARCH

You can directly access basic facility information and top pollutant discharges for a particular facility using the Facility Search. You can identify the facility of interest by specifying a partial name and/or state, or entering one of the following program IDs:

- National Pollutant Discharge Elimination System (NPDES) permit ID;
- Facility Registry System ID (FRS) ID;
- Toxics Release Inventory (TRI) ID; or
- Clean Watershed Needs Survey (CWNS) ID.

Figure 3-1 displays the Facility Search Option and Figure 3-2 presents an example of the Facility Search output.

**Facility Search (DMR)**

*Instructions.* This Facility Search provides direct access to basic facility information and top pollutant discharges for one facility at a time. Enter or select a value for one or more of the criteria below and click the Search button to retrieve information on a facility. The Facility Search tool will find the facility(ies) that match all of the entered criteria. If more than one facility matches, a list of facilities will be provided from which you can choose. For more information about how to use this search feature, refer to the User's Guide for the Discharge Monitoring Report (DMR) Pollutant Loading Tool (PDF) (27 pp, 1.3MB) or Frequently Asked Questions and Answers (FAQ).

Select Reporting Year: 2010

Facility name

State: Select a State

NPDES ID

FRS ID

TRI ID

CWNS ID

Search

Select reporting year (2007, 2008, 2009, or 2010)

Enter full or partial facility name

Use the state menu alone, or in combination with facility name to limit facility search to a particular State.

If known, enter any one of the following Program ID's:

- 9-character NPDES ID (e.g., DC0000019)
- 12-character FRS ID (e.g., 110001136271)
- 15-character TRI ID (e.g., 20019BNNNG3400B)
- 11-digit CWNS ID (e.g., 10000001003)

**Figure 3-1. Facility Search Option**

Facility Information (DMR)

**US ARMY CORPS OF ENGINEERS DALECARLIA WTP AQUEDUCT, WASHINGTON, DC, 203150220**

NPDES ID: DC0000019  
 FRS ID: 110000500841  
 TRI ID(s): 20315SCOLCS900M  
Click a TRI ID to view that facility's detail page.  
 Facility Type: FEDERAL  
 Permit Type: NPDES Individual Permit  
 Major/Minor Indicator: Major  
 Permit Issuance: EPA REGION 03  
 Approved Pretreatment Program: N/A  
 Combined Sewer Overflow (CSO) Outfall: N/A  
 County: DISTRICT OF COLUMBIA

Latitude: 38.9357  
 Longitude: -77.11167  
 Facility Design Flow (MGD):  
 Actual Average Facility Flow (MGD): 1  
 4-Digit SIC Code: 4941 - WATER SUPPLY  
 NAICS Code: 22131 -  
 Likely Point Source Category:  
[View Enforcement Compliance Report](#)  
[View Effluent Discharge Charts](#)  
[View Permit Limits](#)

Basic facility information, including location, program ID's, industrial classification, permit limits, and links to EPA's ECHO website

Highlighted numbers contain loads calculated using data that has been flagged as potential outliers.

View Facility Loading Calculations for this facility and reporting year. Examining these calculations will show you how the Loading Tool calculates annual pollutant discharges. These calculations can also help identify errors in the underlying discharge monitoring data.

Select Reporting Year: 2010

Change reporting year selection to view loads for a different reporting year

Top Pollutants by Pounds (DMR, 2010)			Top Pollutants by Toxic-Weighted Pounds (TWPE) (DMR, 2010)		
Pollutant Name	Total Pounds (lbs./yr)	Max Allowable Load (lbs./yr)	Pollutant Name	Total TWPE (lbs-eq./yr)	Max Allowable Load (lbs-eq./yr)
Solids, total suspended	13,680,089	22,723	Aluminum	120,898	182
Aluminum	2,014,965	3,030	Iron	687	657
Iron	122,723	117,399	Copper	275	291
Copper	436	462	Chloroform	5.49E-006	
Chloroform	0.0026		Perchlorate (ClO4)	0	
Chlorine	0	75.7	Chlorine	0	37.8
Perchlorate (ClO4)	0				

Download All Data Compare to TRI

Top ten pollutant discharges in pounds and toxic weighted pounds. The tool also displays the maximum allowable load that was calculated using the facility's permit limits

Map showing facility location and locations of upstream and downstream monitoring stations

**Receiving Water Information**  
 Waterbody Name (from GNIS): Potomac River  
 Waterbody Number (REACH Code): 02070010001253  
 Watershed Name and Number (12-Digit HUC): Nichols Run-Potomac River (020700081005)  
 Listed for Impairment? Yes  
 Impairment Class: Impaired by a pollutant and in need of a TMDL.  
 Cause(s) of Impairment: FECAL COLIFORM

**CWNS Treatment Information**  
 N/A

**NPDES Program Information**  
 NPDES permit was issued by EPA REGION 03. Click the appropriate link below for more information on the state or regional program.  
[View State Program Information](#)  
[View EPA Regional Program Information](#)

Receiving water information including impairment data

Wastewater treatment information from CWNS

Links to EPA Region and State program websites

Figure 3-2. Example Facility Search Results

3.1.1 Tips for Searching by Facility

- Avoid entering redundant search criteria. For example, specifying facility name or state when a program ID has been entered is unnecessary.
- Wherever possible, search for facilities using program IDs. Facility names can change frequently, and many facilities have multiple names. As a result, searching on an exact facility name may not produce results.
- Due to variations in naming conventions at facilities, entering a full name may produce no results. First try entering a partial name. If a partial name returns no results, then try further shortening the name fragment. If this still produces no results, try selecting a state and leaving the facility name field blank. The DMR Pollutant Loading Tool will produce a list of facilities for the selected state with hyperlinks to the Facility Results page. The facility list can also be downloaded.

## 4. ADVANCED SEARCH

You can create customized searches and access detailed loadings data using the Advanced Search. In this section, you will find information on Advanced Search options and tips for using the Advanced Search. The Advanced Search screen is presented in Figure 4-1.

You can use the Advanced Search to:

- Select loadings summed either on an annual-, monitoring period-, or facility level.
- Specify criteria for:
  - Query timeframe (e.g., year or range of monitoring period dates);
  - Industry classification;
  - Facility identification;
  - Facility location;
  - Compliance;
  - Facility/Permit type;
  - Receiving watershed;
  - Pollutant; and
  - Facility outfall/monitoring location.
- Select calculation methodologies for:
  - Using DMR data or permit limits to calculate discharges;
  - Calculating pollutant loadings for discharges reported as “non-detect;”
  - Estimating pollutant loadings for monitoring periods with no reported discharges;
  - Calculating pollutant loadings for grouped parameters; and
  - Calculating pollutant loadings for aggregated nutrient parameters.

When you complete an Advanced Search, the DMR Loading Tool generates a comma separated value (CSV) results file. You may transfer the .csv results file to an offline database program or spreadsheet program for analysis.

### Advanced Search (DMR)

**Instructions.** This Advanced Search allows you to create customized searches and access detailed DMR pollutant loadings information. Use the search options below to customize your search to meet your needs. You do not need to specify search criteria for all search options; however, you must select at least one criteria on this page. A Bulk Data Download option is available for generating and downloading very large data sets. For more information about how to use this search feature, refer to the User's Guide for the Discharge Monitoring Report (DMR) Pollutant Loading Tool (PDF) (27.99, 1.5MB) or Frequently Asked Questions and Answers (FAQ).

[Help with Advanced Search](#) -

Select Level of Detail for Loadings Output:

<b>Timeframe</b> Year: <input type="text" value="2010"/> Monitoring Period Range (Select up to a 12-month time period): Start Date: <input type="text"/> <input type="text"/> End Date: <input type="text"/> <input type="text"/>	<b>Facility/Permit Type</b> Facility Type: <input type="text" value="Please Select"/> Treatment Category (POTWs only): <input type="text" value="Select a treatment category"/> <a href="#">CWNS Data Dictionary</a> <input type="checkbox"/> Include only facilities with approved pretreatment program Number of Combined Sewer Overflow (CSO) Outfalls: <input type="text"/> Permit Type: <input type="text" value="Please Select"/> Major/Minor indicator: <input type="text" value="Please Select"/>
<b>Industry Classification</b> Industrial Sector ID (2-digit SIC code): <input type="text" value="Select an SIC Code"/> Industrial Sector ID (4-digit SIC code): <input type="text"/> <i>Separate multiple SIC codes with a comma or carriage return. LIMIT: 400.</i> 2-digit NAICS code: <input type="text" value="Select a 2-Digit NAICS Code"/> NAICS code: <input type="text"/> <i>Separate multiple NAICS codes with a comma or carriage return. LIMIT: 400.</i>	<b>Receiving Watershed</b> HUC Region: <input type="text" value="Please Select"/> Watershed ID (12-Digit HUC): <input type="text"/> <i>Separate multiple HUC12 codes with a comma or carriage return. LIMIT: 400.</i> Major U.S. Watersheds: <input type="text" value="Please Select"/>
<b>Facility Identification</b> FRS ID: <input type="text"/> <i>Separate multiple FRS IDs with a comma or carriage return. LIMIT: 400.</i> NPDES Permit ID: <input type="text"/> <i>Separate multiple NPDES Permit IDs with a comma or carriage return. LIMIT: 400.</i> Facility Name: <input type="text"/>	<b>Pollutant</b> Chemical Abstract Service (CAS) Number: <input type="text"/> <i>Separate multiple CAS numbers with a comma or carriage return. LIMIT: 400.</i> Pollutant: <input type="text"/> <i>Separate multiple pollutants with a comma or carriage return. LIMIT: 400.</i> <a href="#">Look up pollutant</a> Parameter code: <input type="text"/> <i>Separate multiple parameter codes with a comma or carriage return. LIMIT: 400.</i> <a href="#">Look up parameter code</a>
<b>Facility Location</b> City: <input type="text"/> State: <input type="text" value="Select a State"/> Zip Code (5-digit): <input type="text"/> <i>Separate multiple ZIP codes with a comma or carriage return. LIMIT: 400.</i> County: <input type="text"/> EPA Region: <input type="text" value="Select an EPA Region"/> <a href="#">View EPA regional map</a> Facility Latitude: <input type="text"/> (example: 25.1789) Facility Longitude: <input type="text"/> (example: -147.25687)	<b>Facility Outfall/Monitoring Locations</b> Permit Feature ID (outfall/pipe number): <input type="text"/> Permit Feature Latitude: <input type="text"/> (example: 25.1789) Permit Feature Longitude: <input type="text"/> (example: -147.25687) Monitoring location code: <input type="text"/>
<b>Compliance</b> <input type="checkbox"/> Show only facilities with exceedances Percent over limit (%): <input type="text"/> Pounds over limit (lbs): <input type="text"/>	

<b>Loading Calculation Options</b> Select Data for Loading Calculations: <input type="text" value="DMR data only"/> Assume Percent of Permit Limit Discharged: <input type="text" value="N"/> Set Non-Detects Equal to: <input checked="" type="radio"/> Zero   <input type="radio"/> 1/2 Detection Limit   <input type="radio"/> Detection Limit Estimation Function: <input type="text" value="On"/> Parameter Grouping Function: <input type="text" value="Off"/> Nutrient Aggregation Function: <input type="text" value="Off"/>
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Figure 4-1. Advanced Search Fields

## 4.1 Advanced Search User Options

The Advanced Search provides you with a wide range of options for accessing pollutant loadings. In the Advanced Search, you can perform a query to produce an output file containing all pollutant loadings for an entire industry sector, or perform a narrow search to only provide pollutant loadings from a specific facility outfall during a particular monitoring period.

### 4.1.1 *Greater Level of Detail*

Unlike the EZ Search, the Advanced Search does not sum pollutant loadings by geographic location, receiving watershed, or industry sector. Instead, the Advanced Search output lists the individual pollutant loadings that meet your specified search criteria. Each of the resulting pollutant loadings is specific to a particular NPDES permit, facility outfall, and pollutant parameter. By default, the Advanced Search provides annual loadings; however, you can also aggregate loadings to the facility level or select the loadings for a specified monitoring period. Analyzing loads for a specified monitoring period may be useful, for example, if you are analyzing the loadings for seasonal changes. The facility-level search provides you with another option if you are more interested in identifying facilities than analyzing the individual pollutant loadings. The facility-level search provides a list of facilities that meet your search criteria, including facilities that do not have DMR data in PCS and ICIS-NPDES.

### 4.1.2 *Advanced Search Fields*

Table 4-1, found at the end of this section, presents the search fields that you can use to filter the loadings data. None of the search fields are required to produce an output file; however, unfiltered loadings data will result in a large result file that may slow the performance of the tool. If you specify search criteria for one or more of the categories shown in Table 4-1, you will narrow the scope of the search and reduce the size of the result file. If you are performing a broad search, the following fields may be used to significantly narrow your search:

- Industry Classification: If you know your industry(ies) of interest, try selecting a 2-digit SIC code or entering a 4-digit SIC code.
- Facility Type: If you are interested in municipal discharges, select “POTW”. If you are interested in industrial discharges, select “Industrial Point Sources”.
- Facility Location: If you can divide your search into geographic regions, try specifying an EPA Region or State.
- Receiving Watershed: If you can divide your search into hydrologic regions, try selecting a HUC Region, entering a Watershed ID, or selecting a Major U.S. Watershed.
- Pollutant: If you know your pollutant(s) of interest, enter the pollutant name(s).

## 4.2 Loading Calculation Options

You can use the Advanced Search to customize loading calculations to meet a wide range of analytical needs. It is important to note how the Advanced Search methodology differs from the EZ Search methodology. To generate the simplified top ten rankings presented in the EZ



Search results, the DMR Pollutant Loading Tool uses several calculation methodologies, including:

- Estimating loads using DMR data only (loadings are not estimated using permit limits);
- Estimating loads for discharges reported as “non-detect;”
- Estimating loads for monitoring periods with no reported discharges;
- Grouping pollutant parameters that represent the same chemical; and
- Aggregating loads for nitrogen and phosphorus compounds (i.e., nutrients).

These methods may not be appropriate for all end-uses of the loadings data; therefore, the Advanced Search offers a more versatile alternative. The Advanced Search calculation methodologies are described in detail in *The Technical Users Background Document for the DMR Pollutant Loading Tool*<sup>2</sup>.

#### **4.2.1 Select Data for Loading Calculations**

This option enables you to calculate pollutant discharges using one of the following options:

- Calculate loadings from DMR data only (current method);
- Calculate loadings using DMR data and use permit limits for months where DMR data are missing; or
- Calculate loadings using permit limits only.

If you select either the second or third option, the Loading Tool will prompt you to specify the percentage of the permit limit that the Loading Tool should assume is actually discharged for its loading calculations. For example, if you choose to calculate loadings using permit limits, you can specify that the loading tool use 50% of the limit to calculate pollutant loadings.

#### **4.2.2 Discharges reported as non-Detect**

When a pollutant is reported as “not detected,” its actual concentration may be zero, the detection limit, or some value between zero and the detection limit. With the Loading Tool, you can choose to calculate annual loads using one of three methods: setting all non-detects to zero, setting all non-detects to ½ the detection limit, and setting all non-detects to the detection limit.

To generate the loadings in the EZ Search, the DMR Pollutant Loading Tool uses a fourth method. It sets non-detects equal to zero if the pollutant was not detected for all monitoring periods in the reporting year. If the pollutant was detected in at least one monitoring period, then the DMR Pollutant Loading Tool sets the non-detects equal to ½ the detection limit.

#### **4.2.3 Estimation Function**

The estimation function applies to situations where monitoring data for one or more monitoring periods in a reporting year are missing. The estimation function applies an estimation

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<sup>2</sup> *The Technical Users Background Document for the DMR Pollutant Loading Tool (available on User Guide tab)*

factor to annual loads to extrapolate the load to account for the missing monitoring data. This estimation factor is not applied to monitoring periods where the facility indicated that no discharge occurred.

To generate loadings results for the EZ Search, the DMR Pollutant Loading Tool sets the estimation function to “on.” You can choose to turn this estimation function on or off for the Advanced Search. (Note: The estimation function is only available for loadings that are calculated on an annual basis).

#### ***4.2.4 Parameter Grouping Function***

To generate the loadings in the EZ Search, the DMR Pollutant Loading Tool uses a parameter grouping function to avoid double-counting loads for pollutant parameters that represent the same pollutant. For example, an NPDES permit may require a facility to measure a pollutant in more than one way, such as total lead and dissolved lead. Because “total” includes “dissolved,” summing total and dissolved would result in double counting. Using the parameter grouping function, the DMR Pollutant Loading Tool selects the parameter that best represents the total pollutant discharge to calculate the total pollutant load. For instance, if a facility reported discharges of both total lead and dissolved lead, the DMR Pollutant Loading Tool selects total lead (ignoring dissolved lead) to calculate the lead load.

If you turn off the parameter grouping function, the Advanced Search results will include loads for each pollutant parameter, reported separately (for the example, total lead and dissolved lead will be listed separately).

#### ***4.2.5 Nutrient Aggregation Function***

The DMR Pollutant Loading Tool uses a nutrient aggregation methodology to generate nitrogen and phosphorus pollutant category loads for the EZ Search. You have the option to use this methodology to calculate total nitrogen and total phosphorus loads in the Advanced Search.

If you turn off the nutrient aggregation function, the Advanced Search results will include loads for each nutrient parameter, reported separately (for the example, ammonia and nitrate will be reported separately).

### **4.3 Tips for Using the Advanced Search**

- Avoid entering redundant search criteria. For example, specifying an EPA Region when a state has been selected is unnecessary.
- Wherever possible, search for facilities using program IDs. Facility names can change frequently, and many facilities have multiple names. As a result, searching on an exact facility name may not produce results.
- Try entering partial names for facility name, county name, and city name. The Advanced Search will return records that contain the entered text fragment (string). Similarly, try entering partial latitudes and longitudes. If you are searching on a partial name or latitude/longitude returns no results, try further shortening the text fragment in the search field.

- See *The Technical Users Background Document for the DMR Pollutant Loading Tool*<sup>3</sup> for full documentation of the DMR Pollutant Loading Tool development and calculation methodologies.

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<sup>3</sup> See the “Users Guide/Technical Documents” tab on the Loading Tool website.

**Table 4-1. Advanced Search Fields and Instructions**

Search Field	Instructions	Search Field	Instructions
<b>Timeframe</b>		<b>Facility/Permit Type</b>	
Year	Enter DMR reporting year (e.g., 2007)	Facility Type	Select a facility type from the menu.
		Treatment Category (POTWs only)	Select POTW treatment category from menu
Monitoring Period Range Start	Select start date for monitoring period range (month and year)	Approved Pretreatment Program (POTWs Only)	Check to only include POTWs with an approved pretreatment program.
		Number of CSO Outfalls (POTWs Only)	Enter number of CSO outfalls.
Monitoring Period Range End	Select end date for monitoring period range (month and year)	Permit Type	Select a permit type from the menu.
		Major/Minor Indicator	Select “majors only” or “minors only” from the menu.
<b>Industry Classification</b>		<b>Receiving Watershed</b>	
2-Digit SIC code	Select a 2-digit SIC code for Industry Sector of interest from menu	HUC Region	Select 2-digit HUC region from menu.
4-Digit SIC code	Enter one or more 4-digit SIC code(s) for Industry Sector of interest (e.g., 2821)	Watershed ID (12-Digit HUC Code)	Enter one or more 12-digit HUC code(s) (e.g., 020700110302)
2-Digit NAICS code	Select a 2-digit NAICS code from menu	Major U.S. Watershed	Select major U.S. watershed from menu.
NAICS code	Enter one or more 6-digit NAICS code(s) for Industry Sector of interest (e.g., 325110)		
<b>Facility Identification</b>		<b>Pollutant</b>	
FRS ID	Enter one or more 12-character FRS ID (e.g., 110001136271)	CAS Number	Enter one or more CAS Number (without dashes) for the pollutant of interest (e.g., 7439976).
NPDES Permit ID	Enter one or more 9-character NPDES ID(s) (e.g., DC0000094)	Pollutant	Enter one or more pollutant name or use pollutant search link to identify pollutant of interest
Facility Name	Enter a full or partial facility name. The search output will include all records with facility names containing the specified text string.	Parameter Code	Enter one or more 5-digit parameter code (e.g., 50060) or use the parameter search link to identify parameter of interest

**Table 4-1. Advanced Search Fields and Instructions**

Search Field	Instructions	Search Field	Instructions
<b>Facility Location</b>		<b>Facility Outfall/Monitoring Location</b>	
City	Enter full or partial city name. The search output will include all records with cities containing the specified text string.	Permit Feature ID	Enter 3-digit code for facility outfall of interest (e.g., 001)
State	Select state from menu		
Zip Code	Enter one or more 5-digit zip code (e.g., 20004)	Permit Feature Latitude	Enter full or partial latitude (e.g., 35.178)
County	Enter full or partial county name. The search output will include all records with counties containing the specified text string.		
EPA Region	Select EPA Region from menu	Permit Feature Longitude	Enter full or partial longitude (e.g., -147.2568)
Facility Latitude	Enter full or partial latitude (e.g., 35.178)		
Facility Longitude	Enter full or partial longitude (e.g., -147.2568)		
<b>Compliance</b>		Monitoring Location Code	Enter the 1-digit code for the monitoring location code of interest (e.g., 2)
Percent over limit (%)	Enter the percent over limit (e.g., 50)		
Pounds over limit (lbs)	Enter the pounds over limit (e.g., 100)		

**Table 4-2. Loading Calculation Options Table and Instructions**

<b>Loading Calculation Options</b>	
Select Data for Loading Calculations	Select DMR data only, Permit limits only, or Use permit limits where DMR data unavailable
Assume Percent of Permit Limit Discharged	Enter the percent of permit limit discharged (e.g., 50)
Set Non-Detects Equal to	Select zero, ½ detection limit, or detection limit
Estimation Function	Select on or off from menu
Parameter Grouping Function	Select on or off from menu
Nutrient Aggregation Function	Select on or off from menu