Transcript for ECHO Examining Differences in Top Industries and Chemicals TRI and DMR Comparison Charts Tutorial with Accessible Instructions

The tutorial narration is spoken over a video recording capturing movement on the screen. Specific actions are described within brackets.

The TRI and DMR Comparison Dashboard presents data in a visual format accompanied by data downloads, as comma separated variable (CSV) files that can be opened in Microsoft Excel or another spreadsheet software.

Introduction

[*Begin on TRI and DMR Comparison Dashboard* https://echo.epa.gov/trends/loading-tool/comparison-dashboard/ *in an Internet browser.*]

In this tutorial, we will use the Top Industries and Top Chemicals charts to examine differences in chemical release quantities in TRI and DMR data. This tutorial may be useful for you if you are evaluating data quality, for example, to identify differences in reporting and potential outliers.

As we compare the TRI and DMR data, keep in mind that while there is overlap, DMR and TRI are different data collections and serve different purposes. In situations where data from a given facility appear in one data set, but not the other, it does not automatically indicate that the facility is noncompliant or has made a reporting error.

The Top Industries and Top Chemicals charts display aggregated TRI and DMR data for several metrics (Facility Counts, Total Pounds, and Toxic Weighted Pounds). [*Using the Tab key, navigate to the "Reporting Year" dropdown menu and use the Arrow keys to select 2014. Then navigate to the "Select metric" dropdown menu and use the Arrow keys to select "Total Pounds" and press Enter.*]

Example 1

In this tutorial, we present two examples using the Top Industries and Top Chemicals charts to explore potential data quality issues: Example one looks at DMR data, while example two focuses on TRI data.

In our first example, we will look at the Industries and Chemicals with the largest differences (in total pounds) where the DMR pounds are larger than TRI.

[*Using the Tab key, navigate to the "Sort By:" dropdown menu and use the Arrow keys to select "Pounds Difference (DMR>TRI). Using the Tab key, navigate to "Refresh Charts" and press Enter.*]

Note that we select TRI Industries and TRI Chemicals to target discharges that overlap between the two programs. Here we can see that there is a clear discrepancy with DMR discharges in the Hazardous Waste Industry and Nickel Compounds.

When we drill down on these categories by clicking on them, we see that nickel is the largest chemical discharge for the Hazardous Waste industry, and that the Hazardous Waste industry is

the industry reporting the largest nickel discharges. Therefore, we see that the two discharges are related.

To investigate further, we can click on the Download Facilities button. [*Using the Tab key, navigate to the "Download Facilities" button and press Enter to download a CSV file. Open the data file to follow along with the narration.*]

The data will appear in this format. Note that for this tutorial the facility identifying information has been hidden. We can better understand the data by organizing it using filters and sorting. In this example, select records with "DMR Industry" equal to Hazardous Waste and sort by DMR pounds descending. [*Using Shift and arrow keys, highlight the first row of column labels. Using the Office accessibility key (Alt) feature, navigate to "Sort & Filter" on the editing panel, then select "filter". Select the arrow on column N for DMR Industry and uncheck "select all". Search "haz" in the text box, and check "Hazardous waste". Select the arrow on column Q for DMR Pounds and choose the option to sort largest to smallest.*]

The "Y" in the "Contains Potential Outlier" column indicates that there may be a data quality problem with the DMR data.

You can access more detailed information about this facility using the Multi-Year Report links on the far right [*Navigate to column X in the data file*].

Example 2

[*Return to TRI and DMR Comparison Dashboard https://echo.epa.gov/trends/loading-tool/comparison-dashboard/ in an Internet browser.*]

In this second example, we will focus on one state and will sort the top industries and top chemicals charts by largest TRI releases.

[*Using the Tab key, navigate to the Reporting Year and use the Arrow keys to select 2014. Then navigate to the State dropdown men, use the Arrow keys to select "Colorado" and use the Tab key to navigate to Refresh Charts and press Enter. Then scroll down to the Top Chemicals and Top Industries charts and use the Tab key to navigate to the Select metric dropdown menu and use the Arrow keys to select "Total pounds" and "TRI pounds" from the Sort By dropdown menu. Use the Tab key to navigate to Refresh charts and press Enter*].

The Food Industry and Nitrate Compounds come to the top.

As demonstrated in the previous example, we will download the facility data to find the top facility and open the multi-year report. [*Using the Tab key, navigate to the "Download Facilities" button and press Enter to download a CSV file. Open the data file and navigate to column X.*]

This is the multi-year report for an example facility in Colorado. To match DMR pollutants with TRI chemicals, the report presents discharges aggregated into chemical groups. We can see the DMR discharges of Nitrate Compounds for the last five years displayed side by side with the

TRI releases of Nitrate Compounds. Unlike the previous example, the DMR data for this facility are not flagged for potential data quality issues.

We can drill down one step further by clicking on Nitrate Compounds.

On this page, we see the discharges with the pollutant names as they were reported in the DMR and TRI data. For example, this table shows that the Loading Tool matched the DMR discharges for Inorganic Nitrogen with TRI releases for Nitrate Compounds. Inorganic nitrogen is a measure of several forms of nitrogen, including nitrate compounds, nitrite, and ammonia. Although the TRI data are consistently higher than DMR loads every year, both data show the same general trend.

You can use the links at the top of the page to access Detailed Facility Information.

For example, let's click on the NPDES ID link. [*Use the tab key to navigate to "View DMR Pollutant Loading Report" and press Enter.*]

The DMR Facility Detail Page provides additional information, such as permit limits and links to the underlying DMR loading calculations.

In the Top Pollutants table, we see the largest discharges calculated from DMR data. The maximum allowable load is also displayed. This value is calculated using the effluent limits from the facility's NPDES permit and represents the maximum discharge that is allowed for this facility. In this case, we note that the maximum allowable load for inorganic nitrogen is lower than the TRI release reported for nitrate for 2014. The next step to evaluate this difference in reporting might be to contact the TRI facility to understand how the water releases were estimated.

Conclusion

[*Return to the previous page (TRI and DMR Comparison Dashboard) using Alt + Left Arrow keys or by pressing Alt + D and typing https://echo.epa.gov/trends/loading-tool/comparison-dashboard/.*]

In this tutorial, we demonstrated how you can use the DMR and TRI comparison dashboard to analyze differences in chemical release quantities derived from TRI and DMR data.

Click on the tutorial link to view demonstrations of other charts in the dashboard [*Using Tab key, navigate to the Tutorial link and press Enter*]. Please refer to help content for more information.