



# DMR Pollutant Loading Tool Version 1.0

## DMR POLLUTANT LOADING TOOL WEB SERVICES

### I. Overview

The DMR Pollutant Loading Tool website ([www.epa.gov/pollutantdischarges](http://www.epa.gov/pollutantdischarges)) is the main way of searching and retrieving data from the DMR Pollutant Loading Tool database. This database pulls Discharge Monitoring Report (DMR) 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 pulls data from the Toxics Release Inventory (TRI). The data are processed through four calculation programs to calculate pollutant loads. The tool stores the calculated loads in an Oracle 10G database, which users can access using the tool's online search options.

Web site or application developers can also invoke the following web service requests in XML and JSON format for one or more facilities.

### II. Total Pollutant Loading Web Service (One or More Facilities)

This web service will accept a National Pollutant Discharge Elimination System (NPDES) permit ID (max of 500 facilities per request) and will return the data fields presented in Table 1 for each facility.

**Table 1. Total Pollutant Loading Web Service Data Fields (One or More Facilities)**

Parameter	Data Type	Description
NPDES ID	String	A nine-character code used to uniquely identify a permitted NPDES facility. The NPDES permit program regulates the direct discharge of pollutants into US waters.
Reporting Year	Numeric	The year the discharge was reported.
Total Pounds Discharged	Numeric	Annual mass discharge of pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from "Users Guide/Technical Documents" tab).
Total Pounds Discharged – Metals	Numeric	Annual mass discharge of metals pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for

Parameter	Data Type	Description
		download from “Users Guide/Technical Documents” tab).
Total Pounds Discharged – Nitrogen	Numeric	Annual mass discharge of nitrogen pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total Pounds Discharged – Organic Enrichment	Numeric	Annual mass discharge of organic enrichment pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total Pounds Discharged – Phosphorus	Numeric	Annual mass discharge of phosphorus pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total Pounds Discharged – Priority Pollutants	Numeric	Annual mass discharge of priority pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total Pounds Discharged – Solids	Numeric	Annual mass discharge of solids pollutants to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total TWPE Discharged	Numeric	The relative toxicities of different pollutant discharges (in units of TWPE) to a receiving stream in a year. TWPE is calculated by multiplying the pollutant mass (in pounds) by its toxic weighting factor. See Table 2-3. <u>This value is not a measure of risk or potential for human health impacts but is a</u>

Parameter	Data Type	Description
		relative measure of the potential toxicity between pollutant discharges.
Total TWPE Discharged – Metals	Numeric	The relative toxicities of different metals pollutant discharges (in units of TWPE) to a receiving stream in a year. TWPE is calculated by multiplying the pollutant mass (in pounds) by its toxic weighting factor. See Table 2-3. <u>This value is not a measure of risk or potential for human health impacts</u> but is a relative measure of the potential toxicity between pollutant discharges.
Total TWPE Discharged – Priority Pollutants	Numeric	The relative toxicities of priority pollutant discharges (in units of TWPE) to a receiving stream in a year. TWPE is calculated by multiplying the pollutant mass (in pounds) by its toxic weighting factor. See Table 2-3. <u>This value is not a measure of risk or potential for human health impacts</u> but is a relative measure of the potential toxicity between pollutant discharges.
Pathogen Indicators Avg Concentration	Numeric	The average pathogen indicators concentration for a calendar year calculated as the arithmetic average of the average pollutant concentrations for all monitoring periods in the calendar year.
Pathogen Indicators Max Concentration	Numeric	The maximum of the average monitoring period concentrations for pathogen indicators in a reporting year (in units of count/100mL). For example, if a facility reports monthly average discharge concentrations, the maximum facility concentration is the maximum of the reported monthly average concentrations.
Avg Temperature (°F)	Numeric	The average of the average monitoring period wastewater temperatures in a reporting year (in degrees Fahrenheit). For example, if a facility reports monthly average temperatures, the annual average facility temperature is the arithmetic average of the reported monthly average temperatures.
Max Temperature (°F)	Numeric	The maximum of the average monitoring period wastewater temperatures in a reporting year (in degrees Fahrenheit). For example, if a facility reports monthly average temperatures, the maximum facility temperature is the maximum of the reported monthly average temperatures.
Avg Daily Wastewater Flow	Numeric	The average of the average monitoring period flows in a reporting year (in units of millions of gallons per day). For example, if a facility reports monthly wastewater flows, the facility average flow is the arithmetic average of the reported monthly wastewater flows.

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Parameter	Data Type	Description
Total Annual Wastewater Flow	Numeric	The total annual wastewater volume (in units of millions of gallons) in a reporting year.
Top Pollutant by Pounds	String	The name used in PCS or ICIS-NPDES to identify the substance with the highest discharge by pounds for this facility in the reporting period.
Pounds Discharged by Top Pollutant by Pounds	Numeric	The highest annual mass discharge of pollutants to a receiving stream for this facility (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Top Pollutant by TWPE	String	The name used in PCS or ICIS-NPDES to identify the substance with the highest discharge by TWPE for this facility in the reporting period.
TWPE Discharged by Top Pollutant by TWPE	Numeric	The highest relative toxicity of different pollutant discharges (in units of TWPE) to a receiving stream for this facility in the reporting period. TWPE is calculated by multiplying the pollutant mass (in pounds) by its toxic weighting factor. See Table 2-3. <u>This value is not a measure of risk or potential for human health impacts</u> but is a relative measure of the potential toxicity between pollutant discharges.

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## Examples

The following are examples of how to invoke this web services feed for two facilities (MT0029891, OH0111597) for the year 2007.

### XML FORMAT:

[http://cfpub.epa.gov/dmr/WebSvc/dmr\\_loads.cfc?method=dmr\\_facility\\_loads&npdes=MT0029891,OH0111597&dmryear=2007](http://cfpub.epa.gov/dmr/WebSvc/dmr_loads.cfc?method=dmr_facility_loads&npdes=MT0029891,OH0111597&dmryear=2007)

```
<FaciltyLoadings>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <TotalPounds>96824.7247981</TotalPounds>
    <TotalPoundsMetals>3.84195643776</TotalPoundsMetals>
    <TotalPoundsNitrogen>32556.605212</TotalPoundsNitrogen>
    <TotalPoundsOrganics></TotalPoundsOrganics>
    <TotalPoundsPhosphorus>63.5933926439</TotalPoundsPhosphorus>
    <TotalPoundsPriorityPoll>3.84195643776</TotalPoundsPriorityPoll>
    <TotalPoundsSolids>62486.7750675</TotalPoundsSolids>
    <TotalTwpe>4.30299121029</TotalTwpe>
    <TotalTwpeMetals>4.30299121029</TotalTwpeMetals>
    <TotalTwpePriorityPoll>4.30299121029</TotalTwpePriorityPoll>
    <PathogenAvgConc></PathogenAvgConc>
    <PathogenMaxConc></PathogenMaxConc>
    <AvgTemp></AvgTemp>
    <MaxTemp></MaxTemp>
    <AvgDailyFlow>1.04076</AvgDailyFlow>
    <TotalAnnualFlow>2661.95664</TotalAnnualFlow>
    <TopPoundsPollutant>Solids, total suspended</TopPoundsPollutant>
    <TopPounds>62486.7750675</TopPounds>
    <TopTwpePollutant>Selenium</TopTwpePollutant>
    <TopTwpe>4.30299121029</TopTwpe>
  </LoadingRecord>
  <LoadingRecord id="OH0111597_2007">
    <NPDESid>OH0111597</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <TotalPounds>0</TotalPounds>
    <TotalPoundsMetals></TotalPoundsMetals>
    <TotalPoundsNitrogen></TotalPoundsNitrogen>
    <TotalPoundsOrganics>0</TotalPoundsOrganics>
    <TotalPoundsPhosphorus></TotalPoundsPhosphorus>
    <TotalPoundsPriorityPoll></TotalPoundsPriorityPoll>
    <TotalPoundsSolids>0</TotalPoundsSolids>
    <TotalTwpe>0</TotalTwpe>
```

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```
<TotalTwpeMetals></TotalTwpeMetals>
<TotalTwpePriorityPoll></TotalTwpePriorityPoll>
<PathogenAvgConc></PathogenAvgConc>
<PathogenMaxConc></PathogenMaxConc>
<AvgTemp></AvgTemp>
<MaxTemp></MaxTemp>
<AvgDailyFlow>0.1352916666667</AvgDailyFlow>
<TotalAnnualFlow>99.028</TotalAnnualFlow>
<TopPoundsPollutant>BOD, 5-day, 20 deg. C</TopPoundsPollutant>
<TopPounds>0</TopPounds>
<TopTwpePollutant>BOD, 5-day, 20 deg. C</TopTwpePollutant>
<TopTwpe>0</TopTwpe>
</LoadingRecord>
</FaciltyLoadings>
```

### JSON FORMAT:

[http://cfpub.epa.gov/dmr/WebSvc/dmr\\_loads.cfc?method=dmr\\_facility\\_loads&npdes=M T0029891,OH0111597&dmryear=2007&f=json](http://cfpub.epa.gov/dmr/WebSvc/dmr_loads.cfc?method=dmr_facility_loads&npdes=M T0029891,OH0111597&dmryear=2007&f=json)

```
{"COLUMNS":["NPDES_ID","DMR_YEAR","TOTAL_LBS","TOTAL_LBS_METAL
S","TOTAL_LBS_NITROGEN","TOTAL_LBS_ORGANICS","TOTAL_LBS_PHOSP
HORUS","TOTAL_LBS_PRIORITYPOLL","TOTAL_LBS_SOLIDS","TOTAL_TWPE
","TOTAL_TWPE_METALS","TOTAL_TWPE_PRIORITYPOLL","PATH_AVG_CON
C","PATH_MAX_CONC","AVG_TEMP","MAX_TEMP","AVG_DAILY_FLOW","TO
TAL_ANNUAL_FLOW","TOP_LBS_POLLUTANT","TOP_LBS","TOP_TWPE_POL
LUTANT","TOP_TWPE"],"DATA":[[["MT0029891",2007.0,96824.72479812906,3.841
9564377600004,32556.605211950402,null,63.593392643928006,3.8419564377600004,
62486.775067500006,4.3029912102912,4.3029912102912,
4.3029912102912,,null,null,null,null,1.04076,2661.95664,"Solids, total
suspended",62486.775067500006,"Selenium",4.3029912102912],["OH0111597",2007.0,
0.0,null,null,0.0,null,null,0.0,0.0,null,null,null,null,null,0.135291666666667,99.028,"
BOD, 5-day, 20 deg. C",0.0,"BOD, 5-day, 20 deg. C",0.0]]}
```

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### III. Total Pollutant Loading Web Service (Single Facilities)

The pollutant loading service will accept a NPDES permit ID for one facility at a time and will return the data fields presented in Table 2 for each pollutant associated with that facility.

**Table 2. Total Pollutant Loading Web Service Data Fields (Single Facility)**

Parameter	Data Type	Description
NPDES ID	String	A nine-character code used to uniquely identify a permitted NPDES facility. The NPDES permit program regulates the direct discharge of pollutants into US waters.
Reporting Year	Numeric	The year the discharge was reported.
Pollutant Name	String	The name used in PCS or ICIS-NPDES to identify the substance discharged.
Total Pounds Discharged	Numeric	Annual mass discharge of a pollutant to a receiving stream (in units of pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).
Total TWPE Discharged	Numeric	Annual mass discharge of a pollutant to a receiving stream (in units of toxic-weighted pounds) calculated using the methodology described in Section 3.3 of the Technical Users Background Document for the <i>Technical Users Background Document for the DMR Pollutant Loading Tool</i> (available for download from “Users Guide/Technical Documents” tab).

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## Example Data Requests:

The following are examples of how to invoke this web services feed for a single facilities (MT0029891) for the year 2007.

### XML FORMAT:

[http://cfpub.epa.gov/dmr/WebSvc/dmr\\_loads.cfc?method=dmr\\_pollutant\\_loads&npdes=MT0029891&dmryear=2007](http://cfpub.epa.gov/dmr/WebSvc/dmr_loads.cfc?method=dmr_pollutant_loads&npdes=MT0029891&dmryear=2007)

```
<PollutantLoadings>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <Pollutant>Inorganic Nitrogen (nitrate and nitrite) (as N)</Pollutant>
    <TotalPounds>15747.2571669</TotalPounds>
    <TotalTwpe></TotalTwpe>
  </LoadingRecord>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <Pollutant>Nitrogen</Pollutant>
    <TotalPounds>17479.5725864</TotalPounds>
    <TotalTwpe></TotalTwpe>
  </LoadingRecord>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <Pollutant>Oil and grease per production</Pollutant>
    <TotalPounds>1043.68462821</TotalPounds>
    <TotalTwpe></TotalTwpe>
  </LoadingRecord>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <Pollutant>Phosphorus</Pollutant>
    <TotalPounds>63.5933926439</TotalPounds>
    <TotalTwpe>0</TotalTwpe>
  </LoadingRecord>
  <LoadingRecord id="MT0029891_2007">
    <NPDESid>MT0029891</NPDESid>
    <ReportingYear>2007</ReportingYear>
    <Pollutant>Selenium</Pollutant>
    <TotalPounds>3.84195643776</TotalPounds>
    <TotalTwpe>4.30299121029</TotalTwpe>
  </LoadingRecord>
```



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```
<LoadingRecord id="MT0029891_2007">
  <NPDESid>MT0029891</NPDESid>
  <ReportingYear>2007</ReportingYear>
  <Pollutant>Solids, total suspended</Pollutant>
  <TotalPounds>62486.7750675</TotalPounds>
  <TotalTwpe></TotalTwpe>
</LoadingRecord>
</PollutantLoadings>
```

**Same Request, JSON FORMAT:**

[http://cfpub.epa.gov/dmr/WebSvc/dmr\\_loads.cfc?method=dmr\\_pollutant\\_loads&npdes=MT0029891&dmryear=2007&f=json](http://cfpub.epa.gov/dmr/WebSvc/dmr_loads.cfc?method=dmr_pollutant_loads&npdes=MT0029891&dmryear=2007&f=json)

```
{"COLUMNS":["NPDES_ID","DMR_YEAR","POLLUTANT_DESC","TOTAL_LBS",
"TOTAL_TWPE"],"DATA":[[{"MT0029891",2007.0,"Inorganic Nitrogen (nitrate and
nitrite) (as
N)",15747.25716692856,null},{"MT0029891",2007.0,"Nitrogen",17479.5725864088,null
},{"MT0029891",2007.0,"Oil and grease per
production",1043.68462821,null},{"MT0029891",2007.0,"Phosphorus",63.59339264392
8006,0.0},{"MT0029891",2007.0,"Selenium",3.8419564377600004,4.3029912102912},{"
MT0029891",2007.0,"Solids, total suspended",62486.775067500006,null}]}
```