2021 SmartWay Barge Carrier Partner Tool:

User Guide

U.S. Version 2.0.20 (Data Year 2020)

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(Data Year 2020)

Transportation and Climate Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

EPA-420-B-21-011
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Pre-Checklist — Before Getting Started

WHAT IS THE SMARTWAY TRANSPORT PARTNERSHIP?

Launched in 2003, the SmartWay Transport Partnership is a public/private collaboration between the EPA and the freight industry to improve fuel efficiency, increase environmental performance, and encourage supply chain sustainability.

Seven types of freight transport companies can join SmartWay.

- Freight shippers
- Logistics companies (including 3PLs/4PLs[1])
- Truck carriers
- Rail carriers
- Barge carriers
- Multimodal carriers
- Air carriers

Companies join the SmartWay Transport Partnership by submitting a Partner Tool to SmartWay. The SmartWay Tools (1) assess freight operations; (2) calculate fuel consumption and carbon footprints; and (3) track fuel-efficiency and emission reductions. SmartWay Tools must be submitted each year for the company to remain a Partner in good standing. Tools submitted and approved on time qualify partners to use the SmartWay Logo.

SmartWay ranks Partners' efficiency and environmental performance and recognizes superior performance through the SmartWay Excellence Awards.

HOW DO BARGE COMPANIES JOIN THE SMARTWAY TRANSPORT PARTNERSHIP?

Barge companies join SmartWay by submitting a SmartWay Barge Carrier Tool (hereafter known as the "Barge Carrier Tool" or "Barge Tool.")

Barge companies that join the SmartWay Transport Partnership are known as "SmartWay Barge Partners."

[1] 3PLs/4PLs Third party logistics/fourth-party logistics companies

When a barge carrier submits a Barge Carrier Tool to EPA, they agree to the requirements stipulated in the SmartWay Barge Carrier Partnership Agreement--notably, that they will measure and report the emissions performance of their company *annually* and provide supporting documentation to EPA upon request.

All SmartWay Barge Partners agree to complete and submit the SmartWay Barge Tool to:

- define fleet composition;
- characterize fleet activity;
- individually benchmark multiple fleets; and
- track annual changes in performance.

Upon approval of a Barge Tool submission, marine companies will be identified as SmartWay Barge Partners on EPA's website on the "SmartWay Partner List" and in a database used by freight shippers to identify companies that meet SmartWay's annual requirements. The carrier will also receive information on how to access its current SmartWay Registration Document.

HOW DO I JOIN IF MY PARENT COMPANY HAS MULTIPLE FLEETS?

Companies that join the SmartWay Partnership should include all of their fleets and vessels in their submission. If a company wishes to list multiple fleets in the Barge Carrier Tool, they should list these fleets as their customers can hire them. Internal fleets invisible to a customer should not be listed separately. Companies will be listed at the Company level in the SmartWay Partner list on the SmartWay website, and each individually defined fleet will appear as a separate entity in the SmartWay Carrier Data file that customers use to identify which fleets they do business with in the Shipper and/or Logistics Tools.

SmartWay highly recommends developing your list of fleets before beginning your data entry process. Any fleet that a shipper or logistics company could hire directly should be listed as a separate fleet in your Barge Carrier Tool submission. The best strategy is to have a clear idea of how to define your companies before filling out the Tool.

WHAT DATA DO I NEED TO GATHER TO COMPLETE THE BARGE CARRIER TOOL?

To participate in SmartWay, barge carriers need to gather the following essential information to complete the Barge Carrier Tool:

- The official company name EXACTLY as you would like it presented on the EPA website and other EPA communications
- Company contact information
- Contact details for your Working Contact (see page 12 for definition)

- Contact details for an Executive, Sustainability and/or Other Contact(s) (Executive cannot be the same as the Working Contact) (see page 12 for definition)
- Fleet details for all fleets you control:
  - Fleet type (e.g., "Open-water barge" or "River barge")
  - Number of barges and number of tugs
  - Amount of cargo shipped per year by commodity category
- Geographic areas of operation
- Tug/tow characteristics:
  - Vessel names and vessel types, U.S. Coast Guard number
  - Number of engines and model/last rebuild year
  - Power units (horsepower or kilowatts) and fuel type
  - EPA engine category and total rated propulsion power
  - Retrofit information
- Vessel operations:
  - Annual fuel usage and fuel type
  - Towing capacity
  - Annual hours of operation for propulsion engines
  - Auxiliary engine information
- Barge operations:
  - Number of barges by barge type and size
  - Average volume utilization
  - Annual loaded and empty miles per barge
  - Average loaded payload per barge
  - Total fleet activity
- Data sources
- SmartWay ID number (if this is not your first tool submission)

This data should be provided for all of your company's fleets. This data reflects the amount of freight carried by each carrier, the distance that freight is carried, and the fuel consumed to carry the freight.

WHAT SOFTWARE & HARDWARE IS REQUIRED FOR COMPLETING THE BARGE CARRIER TOOL?

The Barge Carrier Tool was designed in Microsoft Excel using forms and Visual Basic for Applications (VBA) macros and code. Completing the Barge Carrier Tool requires the following software and system requirements:

Supported Operating Systems

- Microsoft Windows 7 or later
  - Includes Windows 7, Windows 8 and 8.1, and Windows 10
  - The Tool should also be compatible with Windows XP if all other requirements are met as well. However, Windows XP has reached end of support from Microsoft and this may affect tool performance.

System Requirements

- IBM Pentium processor or greater
- 2 GB Ram
- 100 MB disk space
- Monitor display setting of 1,024 x 768 or greater

Software Requirements

- Microsoft Excel 2013 or later
  - Includes Excel 2013, Excel 2016 and Excel in Office 365
  - Must be the one-time purchase version of Microsoft Excel installed on a PC or the Office 365 subscription **desktop version** of the application; ***cannot run with Microsoft Excel online or through OneDrive online***
  - The Tool should also be compatible with Excel 2007 and Excel 2010 if all other requirements are met as well. However, Excel 2007 and Excel 2010 has reached end of support and Microsoft no longer provides technical support, bug fixes, or security fixes. This may affect tool performance.

Please check with the user guides for your computer, online support, or your company's IT department to make sure your system is set up to use the Barge Carrier Tool.

HOW DO I SET THE SECURITY LEVEL WHEN OPENING SMARTWAY TOOLS?

Since the Tool employs macros, Excel macros must be enabled to use the Tool. If necessary, follow the directions on the first screen of the Tool to enable macros, follow directions provided on the Microsoft

Support website:
https://support.office.com/en-us/article/Enable-or-disable-macros-in-Office-files-12B036FD-D140-4E74-B45E-16FED1A7E5C6, or follow the directions below:

Macros must be enabled on your computer to use the Barge Tool.

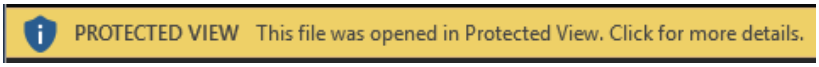
- The default macro security setting in Excel is "Disable all macros with notification."
- When you open the tool, you may get a security alert that macros are present, and you need to choose to enable the macros for this file to work. The steps below describe how to enable macros for different versions of Excel, first if the message bar or security dialog appear, and alternatively in the Trust Center if the message/dialog do not appear.

Enable macros when the Message Bar appears

1. When you open the tool, the yellow message bar appears with a shield icon and the **Enable Content** button.

2. On the **Message** Bar, click **Enable Content**.

Note: if the file opens in Protected View, click **Enable Editing** on the message bar. If there is no Enable Editing option, click **for more details** and then click **Edit Anyway.** The Protected View message will look similar to the image below:



Once editing is enabled, follow Steps 1 and 2 above to enable content on the macro message bar.

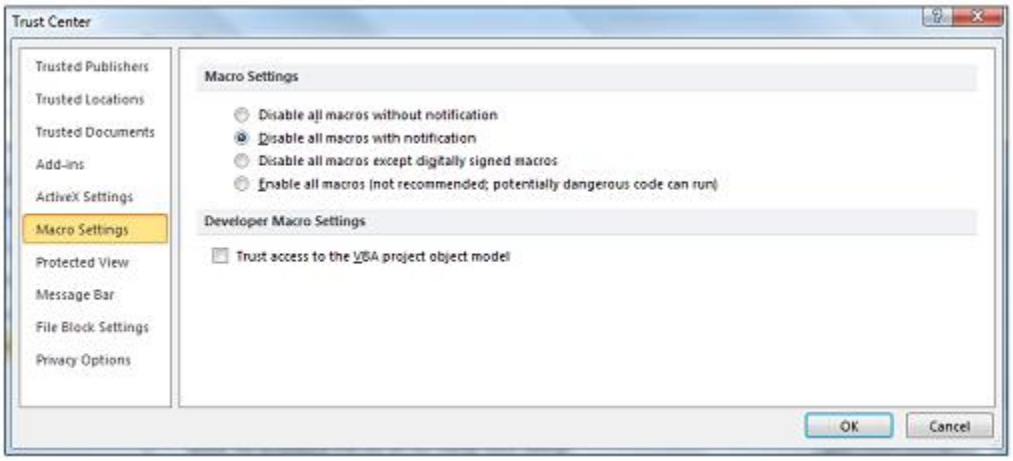
<u>If the Message Bar or Security Options dialog does not appear, change macro settings n the Trust Center</u>

Change macro settings in the Trust Center

1. Click the **File** tab
2. Click **Options**
3. Click **Trust Center**, and then click **Trust Center** Settings.
4. In the Trust Center, click Macro Settings.

5. Click the option "Disable all macros with notification."
6. Click **OK**.
7. Close out of the Excel file and then re-open it.
8. Follow the previous instructions to Enable macros when the Message Bar or Security Options dialog appears

The following image is the **Macro Settings** area of the Trust Center.



Once macros are enabled (and you are not in Protected View), you should be able to proceed with running the Tool.

If, at this point, the Tool does not open, review the "Software and Hardware Requirements." If you after reviewing this section, you cannot determine how to correct the problem, contact your SmartWay Partner Account Manager.

WHAT IS INCLUDED IN THE SMARTWAY CARRIER PARTNERSHIP AGREEMENT?

To join the SmartWay Transport Partnership as a barge company, you must agree to the language on the "Partnership Annual Agreement for Carriers." When you begin working within the Tool, you will be asked to check a box stating that you agree to the terms of the Partnership Annual Agreement. **This agreement must be renewed annually.**

Please review this language with the appropriate personnel within your organization before completing or submitting a Carrier Tool to EPA.

Partnership Agreement for Carriers

With this annual agreement, your company joins EPA's SmartWay Transport Partnership and commits to:

1. Measure and report to EPA on an annual basis the environmental performance of your fleet(s) using EPA's SmartWay Tool. (Existing fleets must report the 12 months of data for the prior year ending December 31. Newly formed companies require a minimum of 3 months of operational data.)
2. Have performance results and Tool submittal status posted on the EPA SmartWay website/database.
3. Agree to submit supporting documentation to EPA for any data used to complete this Tool and agree to EPA audit of this data upon request by EPA.

In return, EPA commits to:

1. Promote company participation in the Partnership by posting Partner names on the EPA SmartWay Website and in related educational, promotional, and media materials. EPA will obtain express written consent from the Partner before using the Partner's name other than in the context of increasing public awareness of its participation as described here.
2. Provide companies with industry-wide performance benchmark data as this data becomes available to EPA.
3. Assist Partners in achieving emission and fuel usage reduction goals (subject to Federal Government Appropriations).
4. Treat individual corporate data as sensitive business information.

General Terms

1. If the Partner or EPA defaults upon this agreement at any point, the agreement shall be considered null and void.
2. Either party can terminate the agreement at any time without prior notification or penalties or any further obligation.
3. EPA agrees not to comment publicly regarding the withdrawal of specific Partners.
4. EPA reserves the right to suspend or revoke Partner status for any Partner that fails to accomplish the specific actions to which it committed in the SmartWay Transport Partnership Agreement and subsequent annual agreements.
5. The Partner agrees that it will not claim or imply that its participation in the SmartWay Transport Partnership constitutes EPA approval or endorsement of anything other than the Partner's commitment to the program. The Partner will not make statements or imply that EPA endorses the purchase or sale of the Partner's products and services or the views of the Partner.
6. Submittal of this SmartWay Tool annually constitutes agreement to all terms in this Partnership Agreement. No separate agreement need be submitted.

Step 1 Data Collection Requirements

This section will identify data needed for completing the required sections of the Barge Carrier Tool. **The Barge Carrier Tool Technical Documentation** explains more about the methodological structure and technical aspects of the Tool and the data entry process; this guide will focus primarily on the essentials for completing the Tool.

INTRODUCTORY SCREENS

Upon opening the 2021 Tool, you will see a Welcome screen, followed by five screens which orient you to the Tool. The Assistance for New Users screen appears first, and allows users to view an orientation video. Additional screens may be accessed from this screen, including Tool selection guidance, data collection needs, Tool help and navigation, and the SmartWay Partner Tool Schedule for 2021. These are general information screens and may be skipped if you are already familiar with the Tool. However, upon proceeding you **MUST** select the box at the bottom of the Partnership Agreement screen, indicating that you agree to the terms of the Partnership Agreement.

DATA REQUIREMENTS FOR ESTABLISHING YOUR DATA COLLECTION YEAR

Before beginning your data collection, identify the last calendar year for which you have full annual (12 months) data. This means that you have data from January of the calendar year through December of the same year. If you have not been in operation for a full year, you must collect ***a minimum of three months' data*** for input into the SmartWay Tool. In your next update year, you will be expected to submit a full year's data.

DATA REQUIREMENTS FOR SECTION 1: SPECIFY OFFICIAL PARTNER NAME

Your Partner Name is the official name that your customers would recognize for your company—in other words, the name someone hiring you would look for.

You must specify your company's official Partner Name under Section 1 of the **HOME** screen, exactly as you want it to appear on the SmartWay website.

For example, you may enter:

- ABC Company
- ABC Company, Inc.

Your company will be listed ***exactly*** as you've entered in Section 1. Therefore, it is important to pay special attention to proper capitalization, abbreviations, annotations, and punctuation.

DATA REQUIREMENTS FOR SECTION 2: ENTER COMPANY CONTACT INFORMATION

The SmartWay Tool asks for:

- **General company information** such as location, web address, phone number, etc.
- **A Working Contact**[2] for any questions about your company's participation and Tool submissions
- **An Executive Contact**[3] for participation in awards and recognition events
- **A Sustainability Contact (optional)**[4] for information on company sustainability programs and outreach
- **Other Contacts (optional):** Additional contacts may include anyone who is not the Working, Executive, or Sustainability contact but may be involved with SmartWay (e.g., press/media contact, fleet manager, etc.).

Note that you MUST have at least two contacts listed in the contact information section of the Tool, and the Working and Executive Contacts must be different. SmartWay recommends developing an internal succession plan to make sure that your Tool submission schedule is maintained in the event that a Working Contact is reassigned, or leaves the company for any reason.

DATA REQUIREMENTS FOR SECTION 3: CHARACTERIZE YOUR FLEETS

The SmartWay Barge Tool allows you to characterize your freight operations at the fleet level. In the Barge Tool, a fleet is defined as any business unit that a customer has discretion to hire.

NOTE: You may include multiple fleets in a single Tool submission.

SmartWay highly recommends developing your list of fleets offline using a company organization chart or perhaps a customer interface webpage. The best strategy is to have a clear idea of how to define your fleets before filling out the Tool.

There are three screens in the **Fleet Description(s)** section of the Tool:

- **Identify Fleets:** For each fleet that a customer can hire, you will be asked to establish names for each of your fleets. Each Fleet Name will begin with your Partner Name, and will include a Fleet Identifier. Use a Fleet Identifier that is recognizable by your customers.

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[2] The Working Contact is the individual designated by the Executive Contact to directly interface with SmartWay regarding specific tasks involved in the timely submission of the Tool. The Working Contact is responsible for coordinating the assembly of information to complete/update fleet data; completing and updating the Tool itself; maintaining direct communication with SmartWay; and keeping interested parties within the company apprised of relevant developments with SmartWay.) *NOTE: To ensure that emails from SmartWay/EPA are not blocked, new Working Contacts may need to add SmartWay/EPA to their preferred list of trusted sources.*

[3] The Executive Contact is the company executive who is responsible for agreeing to the requirements in the SmartWay Partnership Agreement, overseeing the Working Contact (as appropriate), and ensuring the timely submission of the Tool to SmartWay. The Executive Contact also represents the company at awards/recognition events. This person should be a Vice President or higher level representative for the company.

[4] The Sustainability Contact may be the same as the Working or Executive Contact, but not the same as any Other Contacts.

- **Fleet Details:** You will provide the fleet type (e.g. "Open-water barge" or "River barge"), total number of barges, and total number of tugs for each fleet. You will also indicate if your company only maintains harbor tug operations (you do not need to specify number of barges if this is the case).
- **Fleet Cargo:** You will enter the amount of cargo shipped per year by commodity category and specify the preferred unit for containers (short tons or TEUs).

Once you have defined your fleets, create the data entry forms for your fleet by selecting the **Create Fleet(s)** button, available on the **Fleet Cargo** tab.

DATA REQUIREMENTS SECTION 4: FLEET DATA

Once you have identified and characterized your fleets you will be asked to provide additional information for EACH fleet separately.

Geographic Operation Areas Screen Requirements

You will need to provide the geographic areas of operation for the selected fleet. Areas of Operation are broken out into coastal areas, U.S. navigable waterways, Canadian navigable waterways, and harbors. You are allowed the option of entering "other" areas of operation if necessary.

Tug/Tow Characteristics Screen Requirements

You will need to provide the vessel-specific information for each tug/tow vessel identified on the **Tug/Tow Characteristics** screen. To complete this screen, you will need to have the following data on hand for each vessel:

- Vessel name
- Vessel type
- Coast Guard Number
- Number of engines
- Model/last rebuild year
- Power units
- Fuel type
- EPA engine category
- Total rated propulsion power
- Retrofit information

Vessel Operations Screen Requirements

You will need to provide vessel-specific operation information, differentiating hours of operation for propulsion engines and auxiliary engines used during the reporting year. Provide the total fuel used across all engines (propulsion and auxiliary). You will need to input the following data for each vessel:

- Data source for fuel and activity estimates
- Annual fuel usage and fuel type
- Towing capacity (optional)
- Annual hours of operation for propulsion engines
- Auxiliary engine information
  - Manufacture/model year
  - Annual hours of use
  - Total rated power

Barge Operations

You will need to provide barge activity information for each barge type/size combination that you operate. The total number of barges in this section must equal the total number of barges entered in the Fleet Characterization section of the Tool. You will provide data on:

- Data source for barge activity
- Data by barge type and barge size:[5]
  - Number of barges
  - Average volume utilization (loaded trips)
  - Annual loaded miles per barge
  - Annual empty miles per barge
  - Average loaded payload per barge
- Total fleet activity for validation:
  - Total annual ton-miles
  - Loaded and unloaded barge miles for this fleet

[5] Sizes for articulated barges are expressed in barrels.

Step 2 Data Entry

DOWNLOADING THE SMARTWAY BARGE CARRIER TOOL

To download the SmartWay Barge Tool, visit: https://www.epa.gov/smartway/smartway-barge-carrier-tools-and-resources. Save the Tool in a folder on your hard drive; this folder should house copies of your data and future updates.

HOW TO SET SECURITY LEVELS FOR THE SMARTWAY TOOLS

In some cases, Microsoft Excel will ask you to adjust your security settings before opening the Tool. Instructions should appear on your screen *if* you need to change your security settings before running the Tool.

If you need additional assistance with your security settings, contact your Partner Account manager.

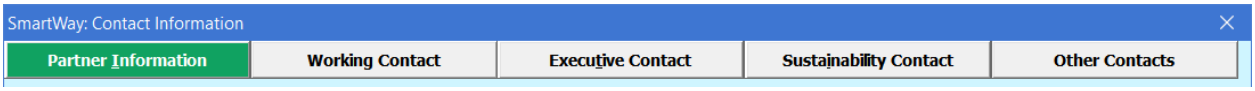
ENTERING PARTNER NAME

Under Step 1 on the **HOME** screen:

1. Type your Partner Name EXACTLY as you would like it to appear on the SmartWay website and in other EPA communications in the field as indicated.
2. Proceed to Section 2 to enter Contact Information.

ENTERING CONTACT INFORMATION

Under the Partner Information tab:



Note: Use the Tabs at the top of the window to navigate between the 5 information screens

Each field marked with an asterisk must be filled out. You will not be able to submit the Tool to SmartWay without this information.

1. Enter the Company address, phone numbers, and website (optional).
2. Enter the Working Contact name and title.

   The **Working Contact** is the individual designated by the Executive Contact to directly interface with SmartWay regarding specific tasks involved in the timely submission of the Tool. The Working

Contact is responsible for coordinating the assembly of information to complete/update fleet data; completing and updating the Tool itself; maintaining direct communication with SmartWay; and keeping interested parties within the company apprised of relevant developments with SmartWay. (NOTE: To ensure that e-mails from SmartWay/EPA are not blocked, new contacts may need to add SmartWay/EPA to their preferred list of trusted sources.)

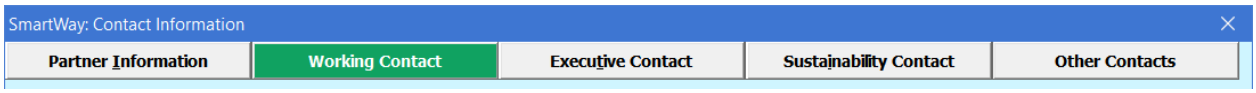
3. **Enter the Executive Contact name and title.**

   The **Executive Contact** is the company executive who is responsible for agreeing to the requirements in the SmartWay Partnership Annual Agreement, overseeing the Working Contact (as appropriate), and ensuring the timely submission of the Tool to SmartWay. The Executive Contact also represents the company at awards/recognition events. This person should be a Vice President or higher level representative for the company

4. **Enter the Sustainability Contact name and title (optional).**

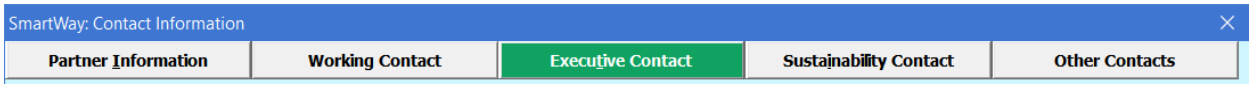
   The **Sustainability Contact** is the individual assigned responsibility for monitoring the company's environmental performance. The Sustainability Contact may be the same as the Working or Executive Contact (and specified by checking the "Same as" boxes in the Sustainability Contact section), but cannot be the same as any Other Contact.

Under the Working Contact tab:



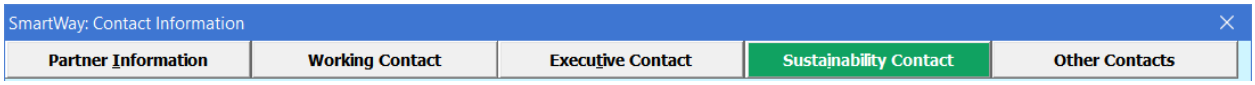
1. Enter the Working Contact information. If the Working Contact shares the same address as the company, you may select the **Use Partner Address** button to auto-populate the address section of this record. Enter the email address twice to confirm its accuracy. When confirmed a ✓ will appear to the right.

Under the Executive Contact tab:



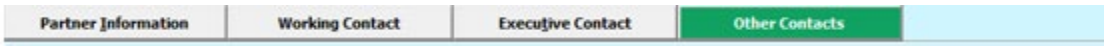
1. Enter the Executive Contact information. If the Executive Contact shares the same address as the company, you may select the **Use Partner Address** button to auto- populate the address section of this record.

Under the Sustainability Contact tab:



1. Enter the Sustainability Contact information, if applicable. If the Sustainability Contact shares the same address as the company, you may select the **Use Partner Address** button to auto-populate the address section of this record.

Under the Other Contacts tab:



1. Enter Other Contacts (if applicable) by selecting the **Add New contact** button.
2. Enter the first Other Contact then select **OK** when done.

Note: You must supply at least two unique contacts on the contact screen to ensure EPA has access to at least two people for Tool submission follow-up.

NOTE: In some cases, companies with multiple fleets will gather information from different sources within the company. You may find it useful to have this additional contact information stored within the Tool.

You can add more contacts to the **Other Contacts** box by repeating this process. If you wish to edit an existing contact's information, highlight the name you wish to edit and then select the **Edit Selected Contact** button. You can remove an existing contact by highlighting the contact and then selecting **Delete Selected Contact**.

To make sure you have filled out all required contact information, select **VALIDATE SCREEN** at the bottom of the screen on the Partner Information tab. If any information is missing or invalid, a dialogue box will appear informing you what additional information is required.

Next select the **HOME** button to return to the **Home** screen and go to Step 3.

COMPLETING THE IDENTIFY FLEETS SCREEN

1. On the **Home** screen, select the **Fleet Description(s)** button to display the **Fleet Descriptions** screens.
2. Confirm that the Partner Name that appears automatically is correct and appropriate for your fleet. If not, make changes in the field under the heading "Partner Name."
3. Enter the "Fleet Identifier" for your first (or only) fleet. This field may be left blank if you only have one fleet. In this case your final Fleet Name will simply be your Partner Name.

4. Enter additional fleets as needed:

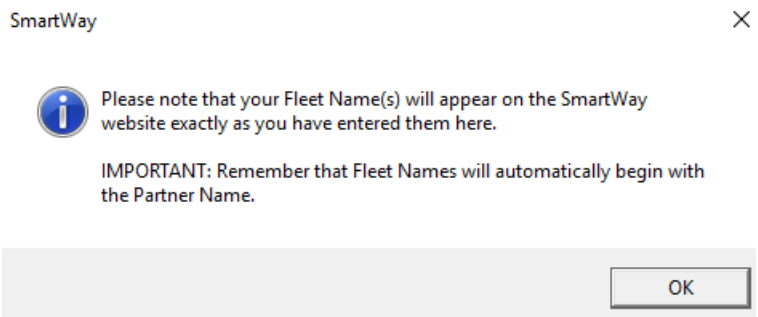
   a. To enter another fleet, select the **Add Another Fleet** button.

   b. To delete a fleet, select the box next to the row you wish to delete, and then select the **Delete Checked Rows** button.

   c. Once you have confirmed or modified the Partner Name and specified the Fleet Identifiers, the full Fleet Names will be displayed on the screen to the right, exactly how they will be displayed on the SmartWay website.

5. To proceed, select the **Fleet Details** tab at the top, or select the **NEXT** button at the bottom of the screen.

6. Before moving on, a popup screen will appear asking you to verify that you are satisfied with your fleet name(s).



7. Verify that the fleet name(s) show exactly what you want customers to find in the SmartWay website and Carrier Data File.

8. Select **OK** to proceed to the **next** screen. You may return to this screen later to revise your fleet name(s) if necessary.

COMPLETING THE FLEET DETAILS SCREEN

For each fleet, you will need to specify:

1. **Fleet Type:** Fleet Type is defined as the service type for your fleet. There are two options accepted by the Tool—"Open-water Barge" and "River Barge." If your company has only one fleet, your "Fleet Type" selection will reflect your company's operations as a whole. If there are multiple fleets, each will have its fleet type defined separately.

   a. **NOTE:** You may also specify "Harbor Craft" as your fleet type by selecting the checkbox on the upper left of the **Fleet Details** screen. Harbor Craft fleets only include power units. Accordingly, the Barge Tool will not allow entry of barge information for these fleets, and associated mileage and volume-related metrics (e.g. grams per ton-mile) are not calculated. Only mass emissions

are calculated for Harbor Craft fleets.

b. ***In addition, at this time the Barge Tool does not accept "mixed fleets" including Harbor Craft and other barge fleet types. If you wish to submit information on both types of fleets please complete and submit separate Barge Tools.***

2. **Total Number of Barges**: This is the total number of barges used by your fleet in the reporting year. The total number of barges should generally be greater than or equal to the total number of tugs in your fleet.

3. **Total Number of Tugs:** This is the total number of tugs used by your fleet in the reporting year. The total number of tugs should generally be less than or equal to the total number of barges.

4. Select the **NEXT** button or select the **Fleet Cargo** tab at the top to proceed to the next section.

NOTE: For articulated/integrated barges, enter one barge and one tug for each unit.

COMPLETING THE FLEET CARGO SCREEN

1. For each fleet you will specify the amount of cargo shipped per year by commodity category. Specify the amount in short tons for all commodity categories except for "Containers". For containers, you may choose to enter the amount in short tons or TEUs. Select the preferred unit from the dropdown box provided.

2. Once all fleet information has been input correctly, you may select the **CREATE FLEET(S)** button at the bottom of the page. You will be prompted then to confirm that you have identified all of your fleets. Return to the **Identify Fleets** screen if needed, otherwise select **OK** and you will automatically be returned to the **Home** screen.

SELECTING A FLEET FOR DATA ENTRY

1. Using your mouse, on the **Home** screen select and highlight the name of the fleet for which you wish to enter data.

2. Double click the name; you will then be taken to the **Geographic Operations Areas data entry** screen for that fleet.

COMPLETING THE GEOGRAPHIC OPERATION AREAS SCREEN

1. You will need to provide the geographic operation areas about the selected fleet. Areas of Operation are broken out into coastal areas, U.S. navigable waterways, Canadian navigable waterways, and harbors. You are allowed the option of entering "other" areas of operation if necessary. Check the box next to each area that your fleet has operations.

2. If you select "Other," write in a description of the geographic area.

3. Select the **VALIDATE SCREEN** button to make sure you have filled out everything on this screen properly.

4. Select **NEXT** or select the **Tug/Tow Characteristics** tab at the top to proceed.

COMPLETING THE TUG/TOW CHARACTERISTICS SCREEN

1. You will need to provide the vessel-specific information for each tug/tow vessel identified on the **Tug/Tow Characteristics** screen. All fields require an entry except Coast Guard Number and Retrofit Information. If you have a large number of vessels, to enter, you may prefer to use the Import/Export function to bring vessel information into the Tool prepared outside the Tool. To complete the screen, fill in the following data fields:

   - **Vessel Name:** Enter the unique vessel name.
   - **Vessel Type:** Select the vessel type that best describes the tug. The options are: Linehaul, Locking, Canal, Harbor, Coastwise, and Other. If "Other" is selected, a description must be provided. Specify the vessel type based on the most common type of operation.
   - **Coast Guard Number:** Enter the 6 or 7 digit USCG identification number. This data field is optional.
   - **Number of Engines**: Specify if the vessel has one, two or three propulsion engines. The Tool assumes multiple engines are identical and used in the same way.
   - **Model/Last Rebuild Year:** Enter the engine model year, or if the engine has been rebuilt, the year of the latest rebuild. Model year, or year of last rebuild, ensures that the US EPA engine tier level is correct in emission calculations. If the engine's emission standards reflect an accelerated adoption schedule, you may select the year corresponding to the standard Tier Level introduction. For example, if a 2013 engine meets Tier 3 standards, you may enter 2014.
   - **Power Units:** Enter the units that you are using to specify total rated power. Options are horsepower (HP) or kilowatts (kW).
   - **Fuel Type:** Specify the fuel type, including biodiesel blend percentage if applicable. Fuel type is needed to ensure that the correct emission factors are used and the associated sulfur concentration is correct.
   - **EPA Engine Category:** The engine category is the US EPA level associated with the vessel's propulsion engine(s). The options are Category 1 (less than 7 liters per cylinder) or Category 2 (7 to 30 liters per cylinder).
   - **Total Rated Propulsion Power:** Enter the maximum rated power of the propulsion engine(s). For example, if there are two 2,000 HP engines then enter 4,000 as the total rated propulsion power. The total maximum rating of the propulsion system is needed to calculate horsepower (or kilowatt) hours, which is then applied to the appropriate factors to estimate emissions.
   - **Retrofit Information:** If an engine has been retrofit with an emissions control technology, select

this checkbox to quantify the estimated NO_x and PM emission reduction. On the **Retrofit** screen, select a strategy from the dropdown and provide additional comments if necessary in the space provided. If you select "Other" from the strategy dropdown, enter the NO_x and PM reduction percent with an explanation in the space provided. Select **OK** to return to the main **Tug/Tow Characteristics** screen.

2. Select **NEXT** or select the **Vessel Operations** tab at the top to proceed.

COMPLETING THE VESSEL OPERATIONS SCREEN

1. You will need to provide vessel-specific operation information on the **Vessel Operations** screen To complete this screen, fill in the following data fields:

   - **Data Source for Fuel and Activity Estimates:** Indicate the source for your vessel operations data.
   - **Annual Fuel Usage and Fuel Type:** Provide the total annual fuel use for each vessel, along with the appropriate units (gallons or tons). This information will be used to calculate CO_2. (Note the exception for LNG auxiliary engines above.) Include the total fuel used across all engines (propulsion and auxiliary) except for vessels with LNG-powered propulsion engines. For these, you will provide the fuel usage for auxiliary engines separately, as auxiliary engines are assumed to use ultra-low sulfur diesel fuel.
   - **Towing Capacity (optional):** Enter the maximum towing capacity per trip for the vessel in short tons. This information is optional and is used to validate the estimated tonnage shipped. Enter the tonnage based on maximum cargo load rather than Bollard Pull – Bollard Pull does not uniquely specify cargo tonnage.
   - **Annual Hours of Operation for Propulsion Engines:** For each mode of use, Underway and Maneuvering, enter the annual hours of operation for the main propulsion engines.
   - **Auxiliary Engines:** Auxiliary engines are combustion engines used to generate electricity, run winches and cranes, control climate, and run pumps. Engines may be present on either tugs or barges. All auxiliary engines are assumed to be diesel powered. You may enter up to eight (8) auxiliary engines for each vessel. Select the **Enter Auxiliary Engine Values** button to enter data. For each auxiliary engine, check the checkbox to include values, and then provide the following for each auxiliary engine: Manufacture/Model Year, Annual Hours of Use, and the Total Rated Power (HP). Select **OK** to return to the main **Vessel Operations** screen.

2. Select **NEXT** or select the **Barge Operations** tab at the top to proceed.

COMPLETING THE BARGE OPERATIONS SCREEN

1. You will need to provide barge activity information for each barge type/size combination that you operate. The total number of barges in this section must equal the total number of barges entered in the Fleet Characterization section of the Tool. Fill in the following data fields to complete this screen:

- **Data Source for Barge Activity:** Indicate the source for your barge operations data.
- **Barge Type:** Barge Type includes the basic barge configurations typically used to move freight, including hoppers, covered barges, tank barges, deck barges, articulated barges, and other specialty barges. Barge types of "Other" will also require a description and the custom volume in 1,000 cubic feet. Find the section with the barge type you would like to enter data for.
- **Barge Size:** Barge lengths typically vary from 150 feet to 300 feet. If a barge is <150 feet, enter its information in the 150 feet category. Barge widths also vary, from 28 to 54 feet, although the tool assumes all barges are a standard 35 feet width in order to simplify calculations. Available barge sizes are 150 feet, 175 feet, 195 to 200 feet, and 250 to 300 feet.[6] In the applicable Barge Type section, find the Barge Size you would like to enter data for, and fill in the following data fields:
    a. **Number of Barges:** Provide the total number of barges of a given type/size combination used in the fleet during the reporting year.
    b. **Average Volume Utilization (Loaded Trips):** Enter the fraction of available cargo volume typically used for each barge type/size combination during loaded trips. For deck barges, estimate the fraction of available surface area utilized.
    c. **Annual Loaded Miles Per Barge:** Enter the average number of miles a barge of the given type/size combination typically travels per year while loaded. All miles in the Tool refer to nautical miles (not statute miles).
    d. **Annual Empty Miles Per Barge:** Enter the average number of miles a barge of the given type/size combination typically travels per year while unloaded. All miles in the Tool refer to nautical miles (not statute miles).
    e. **Average Loaded Payload Per Barge:** Enter the average payload in short tons for a barge of the given type/size combination, for loaded trips.

2. Next, you will fill in **Total Fleet Activity** as a validation check. Enter the total annual ton-miles, loaded and unloaded barge miles for this fleet. This information will be used to help validate the barge type/size-specific data entries. All miles in the Tool refer to nautical miles (not statute miles). Text that shows difference in calculated activity based on your entries here and by barge type and size will appear so you can see if you need to re-enter data.
3. Make sure the total number of barges and tugs on this screen match what you entered in the Fleet Description(s) section of the tool.
4. Select **HOME** to return to proceed through the tool.

[6] Sizes for articulated barges are expressed in barrels.

SUBMITTING YOUR TOOL TO EPA

Once you have entered data for each of your barge fleets in Step 4 of the **Home** screen, you may create final submittal files.

1. Select the **Generate a (.xml) data file** which will open a new screen.
2. Select the checkbox to indicate you understand the terms of the SmartWay Partnership Agreement once again.
3. When ready, select **NEXT** to create a file with the following naming convention: Barge_PartnerName_ Year_ V0.xml[7]

   For example, Barge_ABCompany_ 2020 _V0.xml

   where PartnerName is your company's name as entered for Step 1 on the **Home** screen, and Year indicates the year for which you are submitting your data.
4. Next specify the folder where you would like to save the .xml file, and a screen will appear.
5. Follow these instructions for submitting your .xml and .xlsm files to SmartWay. Note that the .xml file is approximately 10 times smaller than the .xlsm file.
6. Upon selecting **NEXT**, a screen will appear that allows you to close the Barge Carrier Tool or return to the **Home** screen.

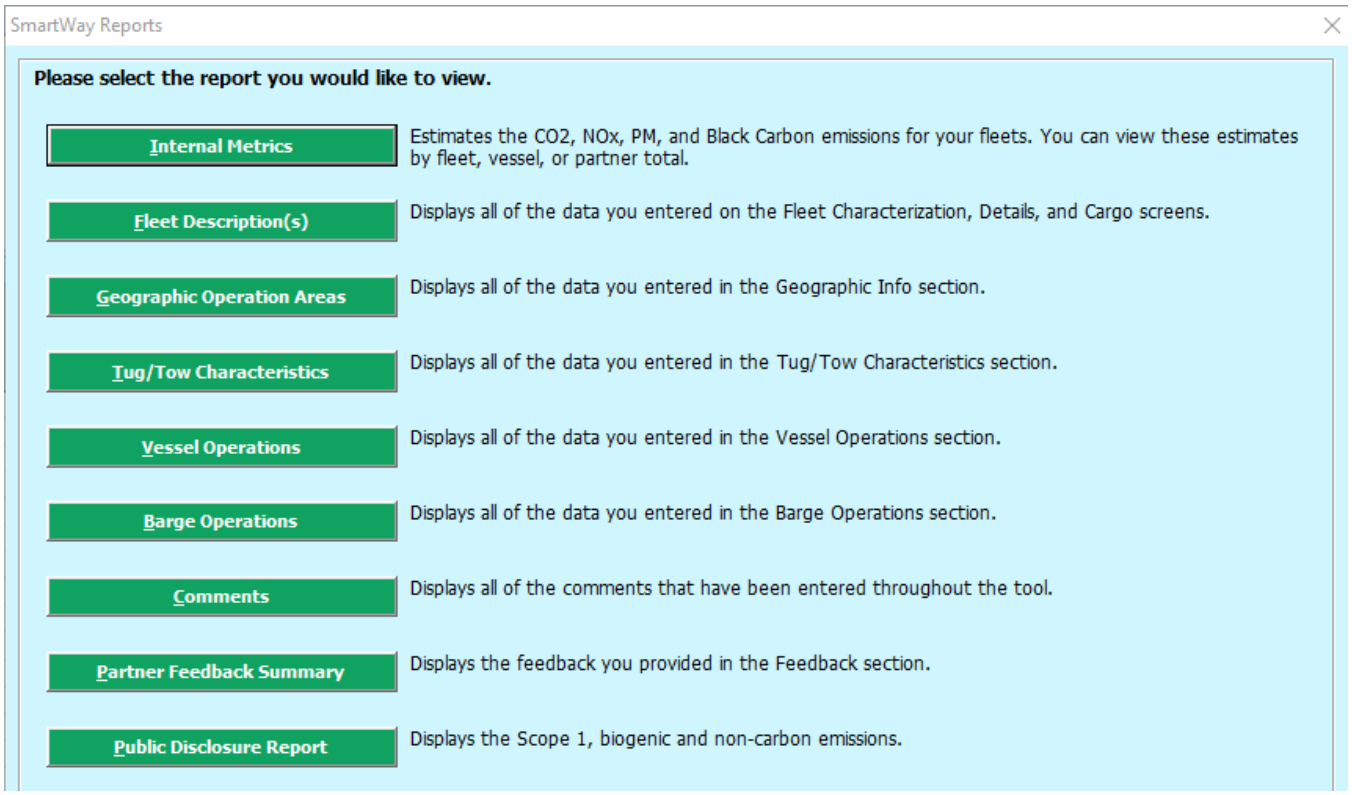
   - **NOTE**: DO NOT ZIP the .xlsm and .xml files. Send them to EPA as normal files attached in an e-mail. EPA security will not allow zipped files through the EPA firewall.
   - **NOTE**: DO NOT CHANGE THE NAME OF THE XML OR XLS FILES.

Please visit https://www.epa.gov/smartway/smartway-barge-carrier-tools-and-resources for additional resources, including printable data collection worksheets, and technical documentation, for more in depth exploration of each section of the Barge Carrier Tool

[7] If you create the XML file multiple times the file name will increment each time (e.g., Barge_ABCompany_2020_V1.XML for the second iteration, etc.

Step 3 Results and Summary Reports

View Summary Data Reports section gives you access to 9 reports to help you understand your data and use it to make better performance decisions. You can access these reports by selecting **View Summary Data Reports** at the bottom of the **Home** screen.



The **Feedback** section allows you to provide EPA with general feedback regarding the SmartWay program. This information is optional and is not required in order to submit your Barge Carrier Tool data to EPA. Selecting the **Give Us Feedback** button under item #5 on the **Home** screen will open this form.

Appendix A: Worksheets For Data Collection

WORKSHEET #1: CONTACT INFORMATION

#1. Enter your Contact Information:

GENERAL COMPANY CONTACT INFORMATION

Company Name							
Headquarters Mailing Address							
City			**State/Province**		**Zip**		**Country**
Main Phone Number		**Toll-free Number**		**Cell number**		**Web Address**	

WORKING CONTACT INFORMATION

Working Contact Name							
Working Contact Mailing Address							
City			**State/Province**		**Zip**		**Country**
Working Contact Phone Number				**Email Address**			

EXECUTIVE CONTACT INFORMATION

Executive Contact Name							
Executive Contact Mailing Address							
City			**State/Province**		**Zip**		**Country**
Executive Contact Phone Number				**Email Address**			

SUSTAINABILITY CONTACT INFORMATION

Sustainability Contact Name							
Sustainability Contact Mailing Address							
City		**State/Province**		**Zip**		**Country**	
Sustainability Contact Phone Number			**Email Address**				

OTHER CONTACT INFORMATION

Other Contact Name							
Other Contact Mailing Address							
City		**State/Province**		**Zip**		**Country**	
Other Contact Phone Number			**Email Address**				
Contact's role in program							

WORKSHEET #2: FLEET CHARACTERIZATION

Complete this worksheet for each fleet you will be submitting in the Air Tool.

Specify Fleet Name: **This will be a combination of your Partner Name and a Fleet Identifier you create. Use a Fleet Identifier that a company hiring your fleet would recognize. Enter it exactly as it should appear on the SmartWay website:**

Partner Name _____

Fleet Identifier _____

FLEET TYPE (check one): ☐ **Open-water Barge** ☐ **River Barge** ☐ **Harbor Craft**[8]

Total # Barges:_____

Total # Tugs:_____

Fleet Cargo: Enter the amount of cargo shipped per year by commodity category. Containers may be entered in units of short tons or TEUs. All other categories must be entered in short tons.

Commodity	Amount	Unit
Containers (select unit):		☐ Tons or ☐ TEUs
Coal:		Tons
Sand & Gravel:		Tons
Chemicals and Allied Products:		Tons
Farm Products:		Tons
Metallic Ores & Scrap:		Tons
Finished Metals & Products:		Tons
Petroleum:		Tons
Coke:		Tons
Lumber & Wood Products:		Tons
Pulp, Paper & Allied Products:		Tons
Motor Vehicles & Equipment:		Tons
All Other Commodities*:		Tons

***If Other Commodities is selected, please describe type:**

_____

[8] No barge information associated with Harbor Craft fleets

WORKSHEET #3A: GEOGRAPHIC OPERATION AREAS

Complete this worksheet for **each fleet** you will be submitting in the Barge Tool.

Geographic Operations Areas

Check the area(s) that apply:

- ☐ Atlantic Coast
- ☐ Gulf of Mexico
- ☐ Upper Mississippi
- ☐ Atlantic Intercoastal Waterways
- ☐ Ohio River Basin
- ☐ Tennessee Basin
- ☐ Gulf of St. Lawrence
- ☐ Mackenzie River/Great Slave Lake/Great Bear Lake
- ☐ Harbors
- ☐ Gulf Inland Waterway
- ☐ Pacific Coast
- ☐ Great Lakes
- ☐ Lower Mississippi
- ☐ Northwest (including Alaska
- ☐ Illinois Basin
- ☐ St. Lawrence Seaway
- ☐ Hudson Bay/James Bay/Hudson Strait
- ☐ Georgia Strait/Strait of Juan de Fuca
- ☐ Other*

*If "Other" is selected, please describe type: _____

WORKSHEET #3B: TUG/TOW CHARACTERISTICS

Complete this worksheet for **each vessel** within your fleet.

Select which vessel type:

- ☐ Linehaul
- ☐ Locking
- ☐ Canal
- ☐ Harbor
- ☐ Coastwise
- ☐ Other*

*If "Other" is selected, please describe the vessel _____

Vessel Coast Guard Number (optional)_____

Number of propulsion engines (select one): ☐ ONE ☐ TWO ☐ THREE

Engine model year or the year of the last rebuild_____

Select which units your total rated power is entered in: ☐ HP or ☐ kW

Select the engine fuel type:

- ☐ Marine Diesel (Ultra-Low Sulfur)
- ☐ Biodiesel
- ☐ Liquefied natural Gas

*If Biodiesel was selected, please provide the biodiesel blend: B_____

EPA engine category (select one): ☐ ONE or ☐ TWO

Total Rated Propulsion Power (HP or kW): Enter the total rated power for all propulsion engine combined. (Example: Two 2,000 HP engines would have 4,000 HP total rated power.):_____

Is there a retrofit on this engine? ☐ Yes or ☐ No

If you answered "Yes" to a retrofit, identify the retrofit (select one):

- ☐ Fuel Injection Engine Improvements
- ☐ SCR
- ☐ Common Rail
- ☐ Diesel Electric
- ☐ Humid Air Motor (HAM)
- ☐ Hybrid Engines
- ☐ Diesel Oxidation Catalyst
- ☐ Lean NO_x Catalyst
- ☐ Other

*If "Other" was selected, provide the following information:

NO_x Reduction %: ____Explanation_____

PM Reduction %: ____ Explanation_____

WORKSHEET #4: VESSEL OPERATIONS

Describe the data source used to provide the fuel and activity estimates for the vessel operations in this fleet:

_____

_____

Complete this portion of the worksheet for each vessel within your fleet.

Annual Fuel Usage: _____ Units (select one): ☐ Gallons or ☐ Tons

Total towing capacity per trip based on maximum cargo load (optional): _____Tons

Annual hours of operation for propulsion engines while *UNDERWAY*: _____Hours/Year

Annual hours of operation for propulsion engines while *MANEUVERING*: _____Hours/Year

Does this vessel have auxiliary engines? ☐ Yes or ☐ No

If you answered **"Yes"** to auxiliary engines, enter the following information for each auxiliary engine (allows up to EIGHT (8) auxiliary engines per vessel). If this vessel uses a propulsion engine powered by LNG, you will also need to provide the amount of annual fuel usage for all auxiliary engines for this vessel. All auxiliary engines for LNG-powered vessels are assumed to use ultra-low sulfur diesel fuel:

Manufacture / Model Year: _____

Annual Hours of Use: _____

Total Rated Power (HP): _____

Annual Diesel (gallons) (applicable only for LNG-powered vessels): _____

NOTE: To convert kW to HP: kW / 0.7457 = HP

WORKSHEET #5: BARGE OPERATIONS

Complete this worksheet for **each fleet** you will be submitting in the Barge Tool.

Describe the data source used to provide the fuel and activity estimates for the barge operations in this fleet:

_____

_____

Use the table below to enter barge activity for each barge type and size combination. The total number of barges must match the number of barges identified in the fleet characterization worksheet. Required data include:

- **Barge Type and Size:** Enter data for the appropriate barge type and length combination. Barge lengths typically vary from 150 feet to 300 feet. If a barge is < 150 feet, enter its information in the 150 foot category. Articulated barge sizes are expressed in barrels.
- **Total Number of Barges:** Enter the total number of barges of a given type & size combination.
- **Average Volume Utilization (Loaded Trips):** Enter the fraction of available cargo volume typically used for each barge type & size combination during loaded trips. For deck barges, estimate the fraction of available surface area utilized.
- **Annual Loaded Miles per Barge:** Enter the average number of nautical miles a barge of the given type & size combination typically travels per year while loaded.
- **Annual Empty Miles per Barge:** Enter the average number of nautical miles a barge of the given type & size combination typically travels per year while unloaded.
- **Average Loaded Payload per Barge:** Enter the average payload in short tons for a barge of the given type & size combination for loaded trips.

Enter the Total Fleet Activity: Once the table for barge activity is complete, enter the total annual ton-miles, loaded and unloaded barge miles for the entire fleet. All miles are in nautical miles.

Total Ton-Miles: _____

Loaded Barge Miles: _____

Unloaded Barge Miles: _____

NOTE: To calculate total ton-miles for this fleet, multiply the average loaded payload per barge by the average loaded annual miles per barge and then by the total number of barges. To check your data, divide total ton-miles by total miles. The result is the fleet-average payload. If this number is not reasonable, check your calculations.

Barge Size	Number of Barges	Average Volume Utilization (Loaded Trips)	Annual Loaded Miles per Barge	Annual Empty Miles per Barge	Average Loaded Payload per Barge
Barge Type: HOPPER					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			
Barge Type: COVERED CARGO					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			
Barge Type: TANK					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			
Barge Type: DECK					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			
Barge Type: CONTAINER					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			
Barge Type: ARTICULATED					
< 100K Barrels		%			
100K < 150K Barrels		%			
150K < 200K Barrels		%			
200K+ Barrels		%			
Barge Type: OTHER*					
150 Feet		%			
175 Feet		%			
195 to 200 Feet		%			
250 to 300 Feet		%			

*If you entered data for "OTHER" barge type, you must also provide the following information.

"OTHER" barge type description: _____

Enter the custom barge volume in 1,000 cubic feet for the "OTHER" barges you specified.

Barge Size	Custom Volume in 1,000 Cubic Feet
150 Feet	
175 Feet	
195 to 200 Feet	
250 to 300 Feet	

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1200 Pennsylvania Ave. NW
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(734) 214-4333

www.epa.gov/transportation-air-pollution-and-climate-change

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(734) 214-4200

www.epa.gov/aboutepa/about-national-vehicle-and-fuel-emissions-laboratory-nvfel