Quickscore User's Guide

Version 4

Environmental Protection Agency

Office of Superfund
and Emergency Management

Table of Contents

1 Introduction

HRS Quickscore (Quickscore) is a web-based tool that was created by the Office of Superfund and Emergency Management (OSEM) of the U.S. Environmental Protection Agency (EPA) to assist in scoring sites using the EPA's Hazard Ranking System (HRS). In this guide, users will learn how to use Quickscore to generate real-time HRS site scores. The target audience for this guide are those people interested in using Quickscore to obtain an HRS score or conducting other site assessment activities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

2 Getting Started

2.1 What is HRS Quickscore?

Quickscore is an electronic data entry system that executes real-time site score calculations. It was designed to assist EPA staff and others in developing conceptual site models for Superfund site assessment (e.g., planning and implementing preliminary assessments), planning site inspections and other data collection efforts according to HRS criteria, as well as writing and reviewing HRS documentation records. Real-time site scores can be a useful tool throughout the site assessment processes.

Quickscore applies the HRS to data entered by users to generate an HRS score.

Quickscore Disclaimer: Please note that the data and resulting scores rely on your understanding and adherence to the rules of the HRS. Use of this product does not guarantee that an HRS package submitted for National Priorities List (NPL) consideration is either qualified or compliant with the guidance and rules of the HRS. All HRS packages and scores are subject to EPA Headquarters inspection and qualification.

2.2 Who should use Quickscore?

This product is intended for use by those individuals who plan and implement Preliminary Assessments (PAs), Site Inspections (SIs), and other data collection efforts according to the HRS rules, as well as those individuals that write and review HRS documentation records. You should have a basic knowledge of the HRS and the HRS factor values.

2.3 What type of equipment do I need to run Quickscore?

You need an internet connection and a web browser with JavaScript enabled. Quickscore is compatible with major browsers (e.g., Edge, Chrome, Firefox and Safari).

You do not need to install anything to use this version of Quickscore.

2.4 Who should I contact if I need help using Quickscore?

For technical Quickscore support, contact:
Quickscore Helpline
Available weekdays, 9:00 - 5:30 EST
Phone: 703-284-6600
Email: Quickscore Technical Support (quickscore@gdit.com)

This Quickscore User Guide and other helpful information is available on the HRS Quickscore Webpage.

3 Getting Around

3.1 How is Quickscore organized?

Quickscore organizes information that you enter by site and then by scenario. From the Quickscore "Welcome" page, you can create a new site, import an existing file or open an existing site. The Quickscore data entry pages were designed to follow the flow of the HRS. The concept is to enter data into Quickscore as you would when calculating the HRS score by hand using HRS scoresheets. There are separate pages for:

- Site information
- Source information
- Each pathway
- Site score summary

These pages will be discussed in more depth later in this user guide.

Important Reminder: This version of Quickscore does **not** save the data "on the fly." You will need to save your work as you move through Quickscore by utilizing the blue "Save" or "Update" buttons on each page.

Quickscore sites and scenarios will be temporarily saved to your internet cache. If your internet cache is cleared, your Quickscore sites and scenarios will be deleted. To ensure you do not lose data, you should export your scenarios after each working session. If your internet cache is cleared, these exported files will need to be imported to work with them again in Quickscore.

3.2 What are the page components?

This section describes each of the key features that appear on the Quickscore pages. The first page in Quickscore, the Quickscore "Welcome" page, is seen in Figure 3-1. On this page, you will find the "Manage Site," "Help," "Create a New Site," and "Import Existing Site" menus and tools.

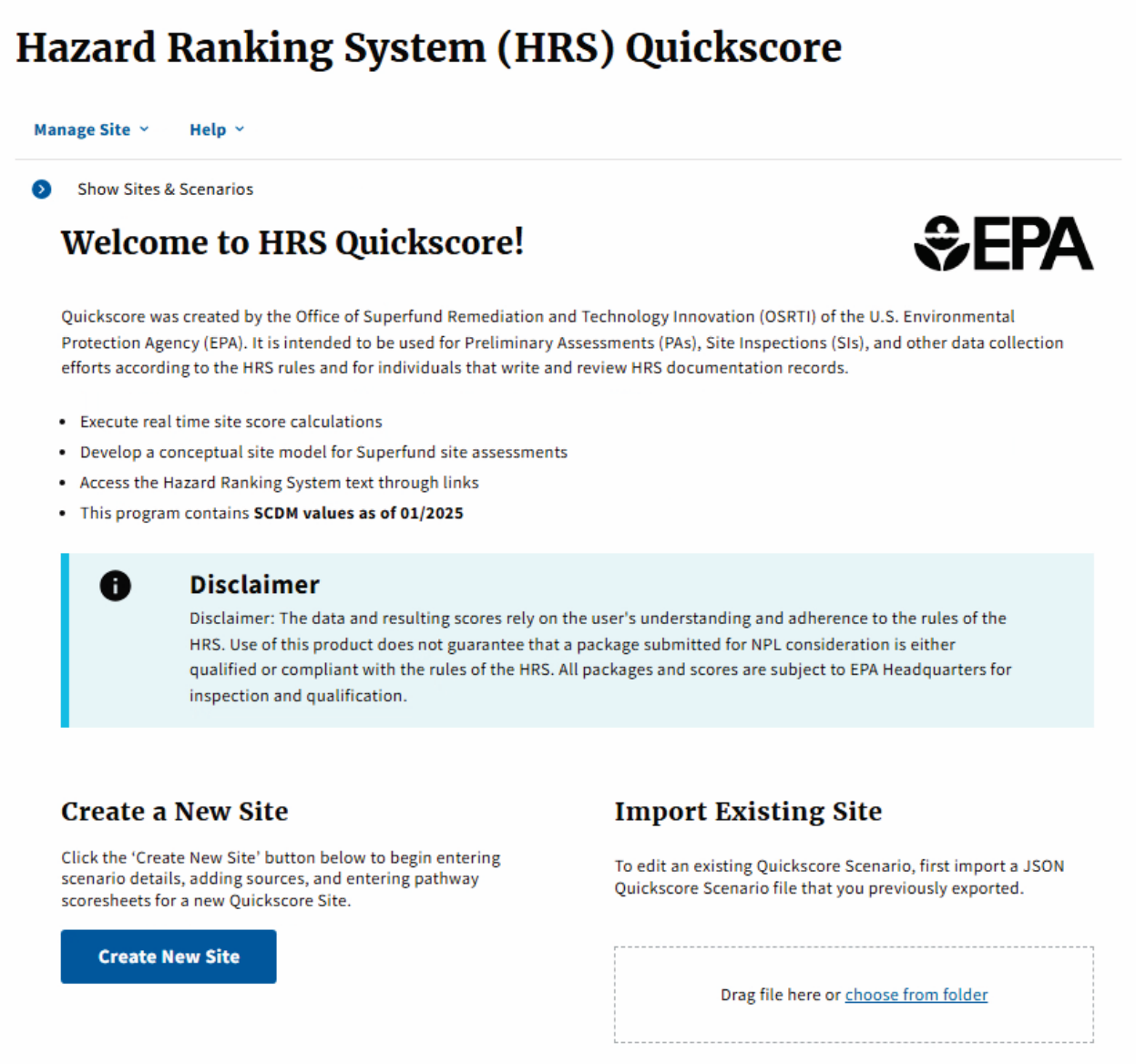


Figure 3-1: Quickscore Welcome Page

Once you begin working on either a new or existing site, some common page elements include:

- A blue "Save" or "Update" button in the lower right corner of each data entry page (e.g., the "Basic Source Information" page, the "Ground Water Migration Pathway Scoresheet", etc.). Remember to save your work as you go!
- Sections for Likelihood of Release, Waste Characteristics and Targets on all pathway scoresheets.
- An ellipsis "…" menu that provides additional tools for scenarios, sources, aquifers, watersheds, and others (e.g., duplicate, delete, etc.).

Be sure to check the ellipsis "…" menu for access to other Quickscore tools …

- A "Go to Previous Page" button in the upper left corner of each data entry page that will take you to the previous page.
- A "Go to Home Page" button in the upper right corner that will take you to the home page for that scenario.
- Hyperlinks to specific sections or tables in the HRS indicated by blue text to the right of data elements throughout the Quickscore data entry pages. Use these links to access the HRS and to gain more information on that specific data element.
- A blue pencil icon on the Quickscore data entry pages that allows access to the "Scratch Pad," where you can enter specific comments or details about Quickscore data elements.

Each of these elements will be discussed in more detail throughout this User Guide.

3.3 How do I use the Manage Site menu?

From the "Welcome" or "Scenario" page, click to open the "Manage Site" menu. From this menu you can "Import," "Export," "Create a New Site," "Print Scoresheet," and "Print a Blank Scoresheet." Click on each function to access the tool. Figure 3-2 shows the "Manage Site" menu. These functions will be described in detail below.

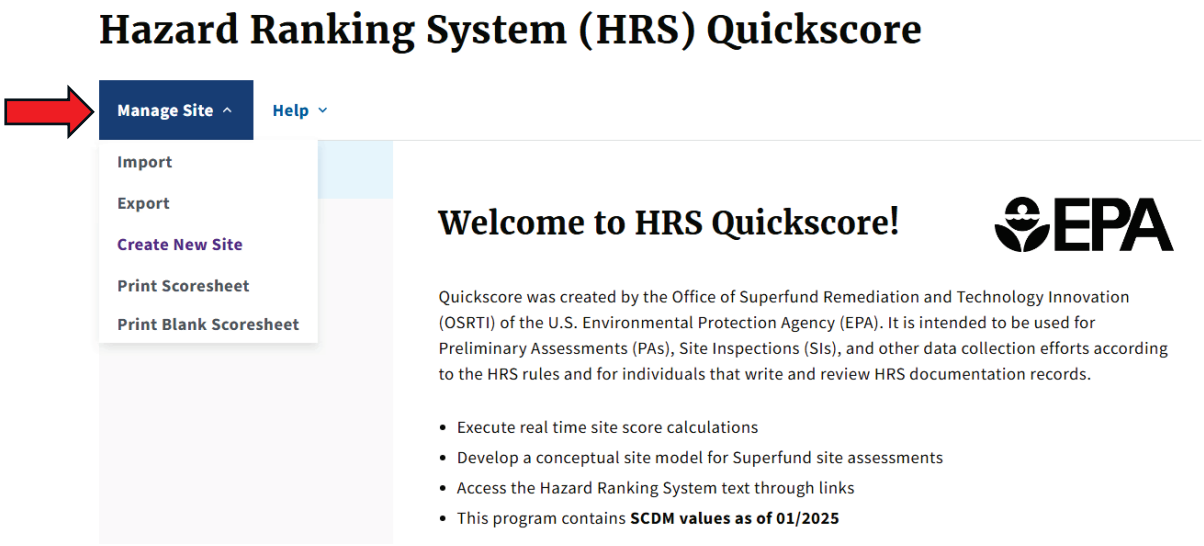


Figure 3-2: Manage Site Menu

3.3.1 How do I import/export files?

You should use the "Export" function to save your sites/scenarios. You can also utilize the "Import" and "Export" functions to share files with colleagues or send files as a deliverable. These tools can be accessed under the "Manage Site" menu, see Figure 3-2. When you select "Export" from the "Manage Site" menu, a dialogue box opens where you can select the site(s) you wish to export, see Figure 3-3. The exported file(s) will be exported to your default download location. Exported files are JavaScript Object Notation (JSON) files. You can keep these files for your records and/or share them with others.

Reminder: This version of Quickscore temporarily saves sites and scenarios to your internet cache. If your internet cache is cleared, your Quickscore scenario(s) will be deleted. To ensure you do not lose data, you should export your scenario(s) after each working session.

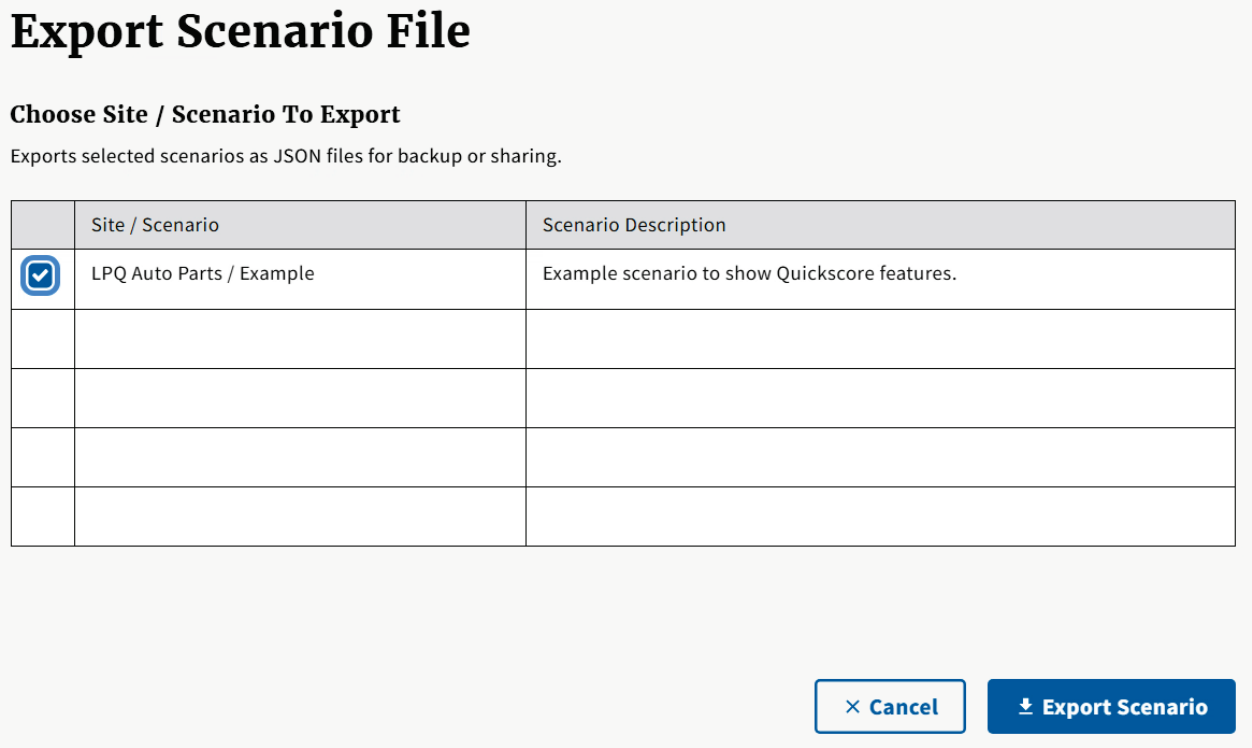


Figure 3-3: Export Scenario File

To import a file, select "Import" under the "Manage Site" menu, see Figure 3-2. You can then drag your Quickscore JSON file and drop it, or you can select "choose from a folder" and navigate to the folder where the Quickscore JSON file is located, see Figure 3-4. Once the file is imported, you will get a "Successfully uploaded" note, see Figure 3-5. You can also use the "Import Existing Site" section on the "Welcome" page to drag and drop your file or navigate to the folder. If you have difficulty uploading your files, please contact the Quickscore helpline.

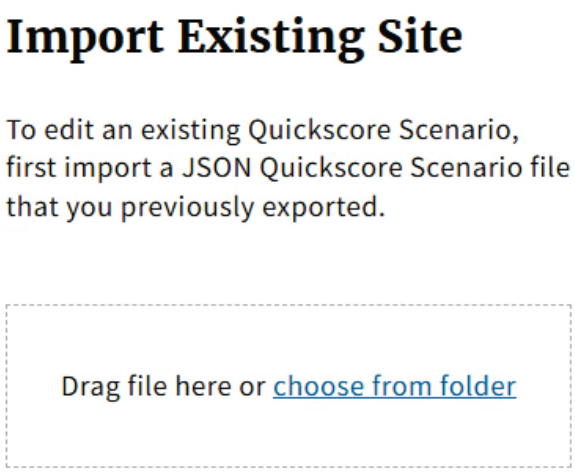


Figure 3-4: Import Existing Site

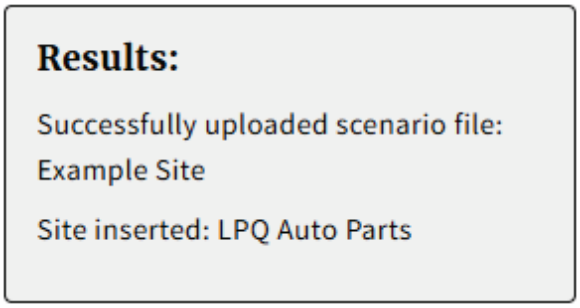


Figure 3-5: Success Upload Message

3.3.2 How do I create a new site?

From the Quickscore "Welcome" page you can create a new site by either using the "Create New Site" option under the "Manage Site" menu or by using the "Create New Site" button on the bottom of the page, see Figure 3-6.

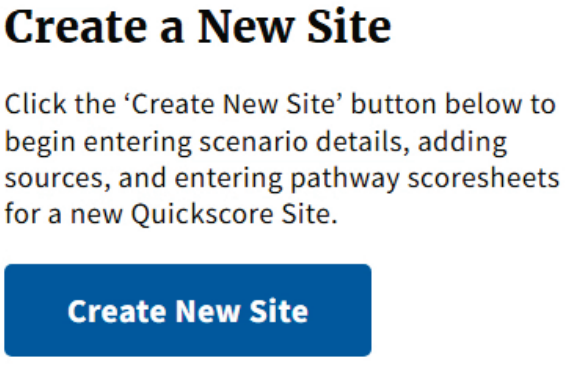


Figure 3-6: Create a New Site

Either of these options will open the "Create a New Site" page. This page is where you will enter basic site information.

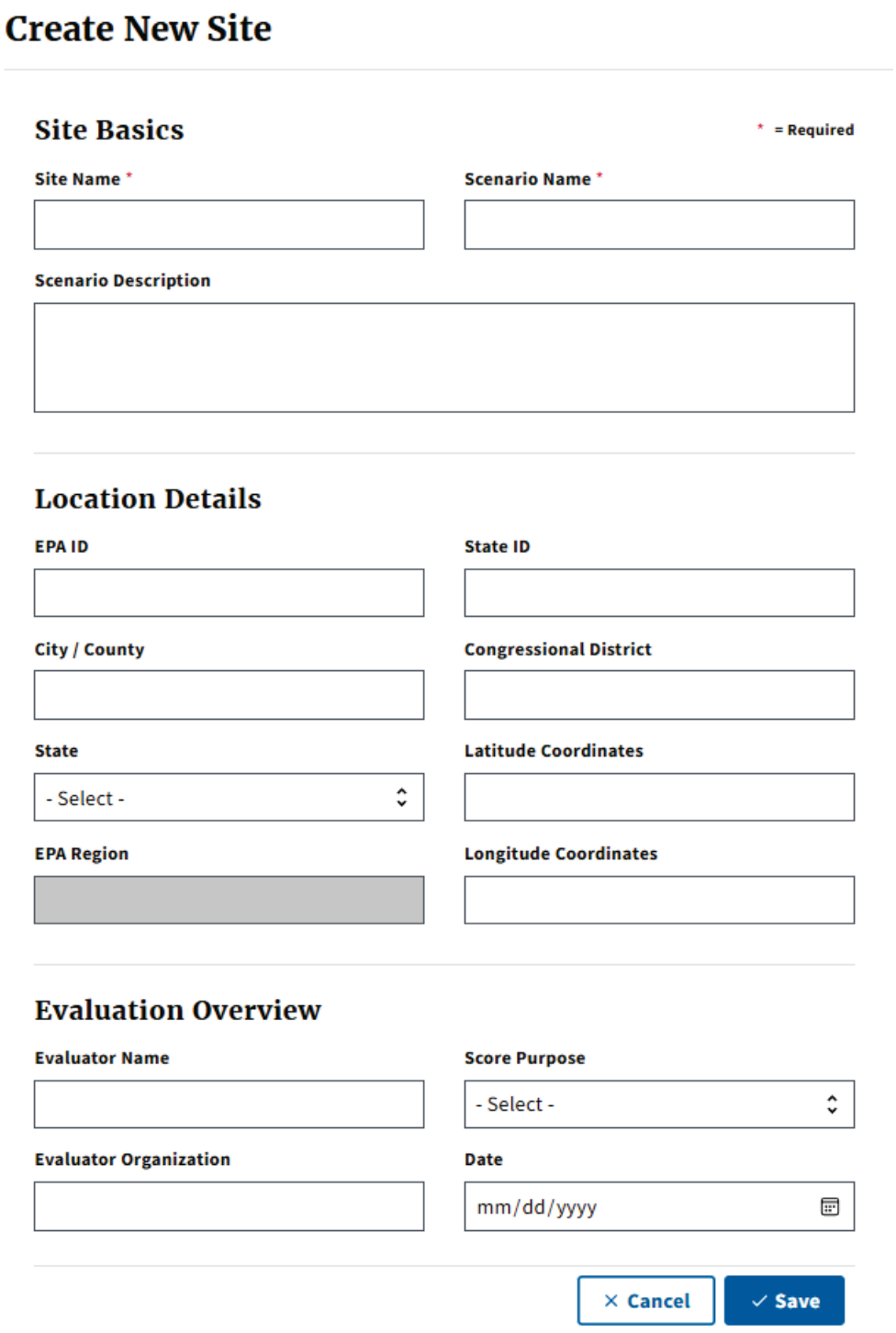


Figure 3-7: Create New Site - Site Basics Data Entry Page

3.3.3 How do I print?

There are several ways to print HRS scoresheets. You can print from the "Manage Site" menu, see Figure 3-2. Here you will select either "Print Scoresheet" or "Print Blank Scoresheet." Selecting "Print Scoresheet" will print final scoresheets and opens a dialogue box to allow you to select which site you want to print, see Figure 3-8. If you select the "Include Notes" check box, the printed scoresheets will contain source, hazardous substance and pathway specific information, as well as any entered Scratch Pad Notes at the end of the scoresheets. Select the site you want to print and press the "Print Selected" button. The printed scoresheet will be saved to your default download folder location as a Microsoft Word document with the scenario name.

You can now print additional information regarding sources and hazardous substances when printing final scoresheets. Check the box to "Include Notes" and this additional information will be included after the scoresheet tables.

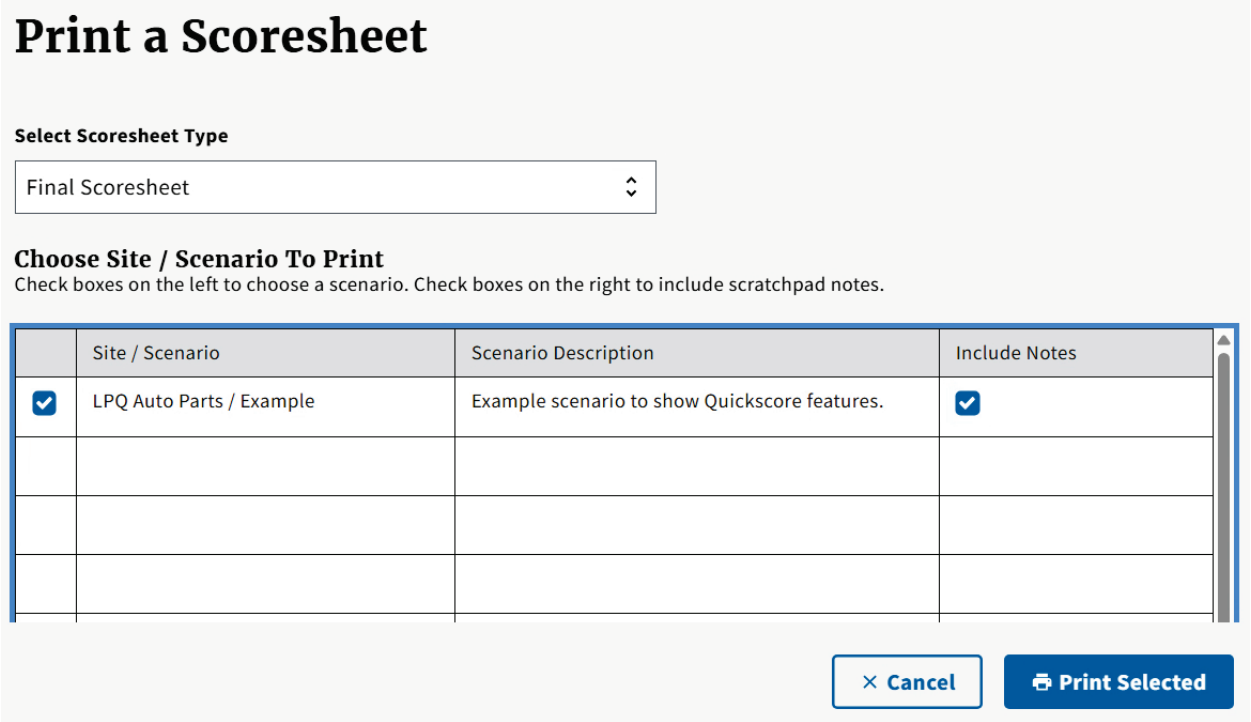


Figure 3-8: Printing Final Scoresheets

Selecting "Print Blank Scoresheets" opens a dialogue box that allows you select which pathway scoresheets you want to print, see Figure 3-9. The printed blank scoresheets will be saved to your default download folder location as a Microsoft Word document.

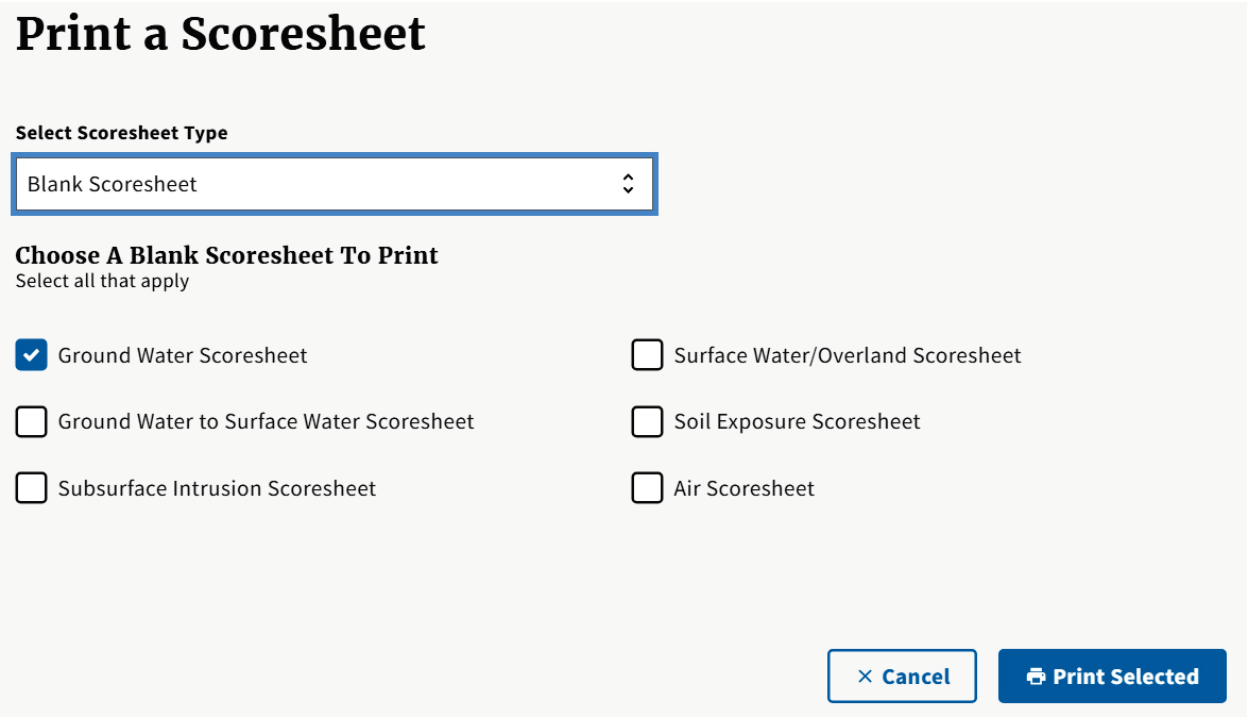


Figure 3-9: Printing Blank Scoresheets

Additionally, you can print both blank and final scoresheets from the "Scenario Summary" page and the individual pathway pages by selecting the ellipsis "…" menu, see Figure 3-13.

3.4 How do I use the Help menu?

The "Help" menu provides access to items that are intended to assist users with Quickscore, see Figure 3-10. It contains the following:

- Help Page – contains Quickscore resources and information
- HRS – digital version of the HRS
- Contact – contact information for the Quickscore Helpline
- Terms of Use – terms and conditions of Quickscore use
- Home – brings you back to the Welcome page

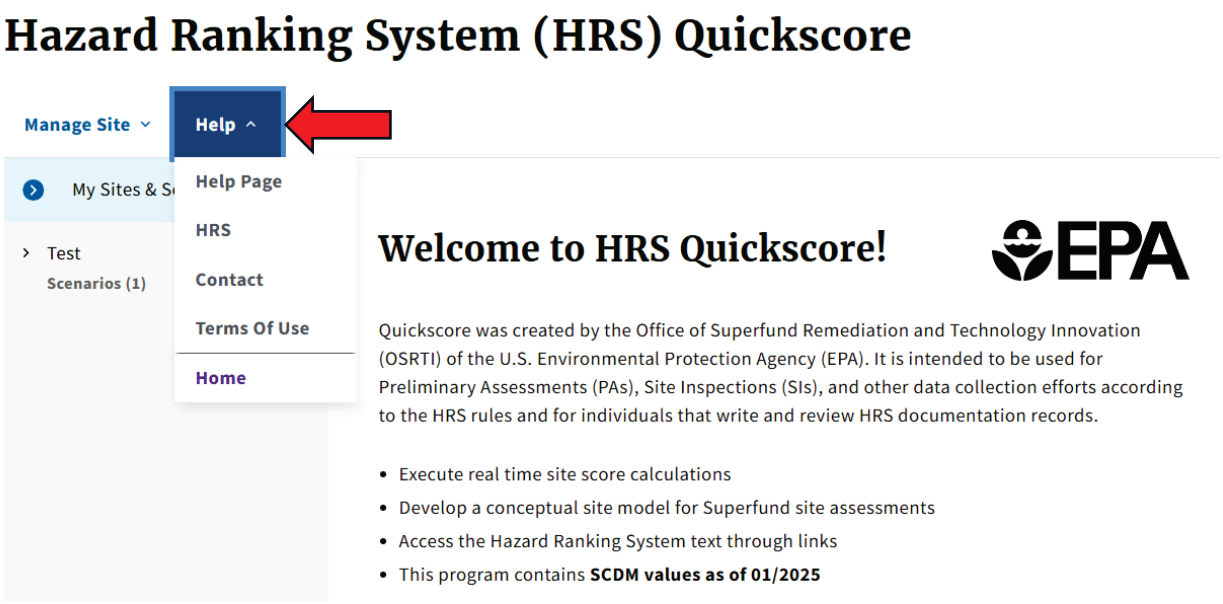


Figure 3-10: Help Menu

3.5 How do I create a new scenario?

To create a new scenario, open the site you want the new scenario to be associated with and click the "Create New Scenario" button at the bottom of the Scenarios page, see Figure 3-11. A data entry box will appear where you can enter the scenario name and description, Figure 3-12. Click "Save New Scenario" and continue scoring your site.

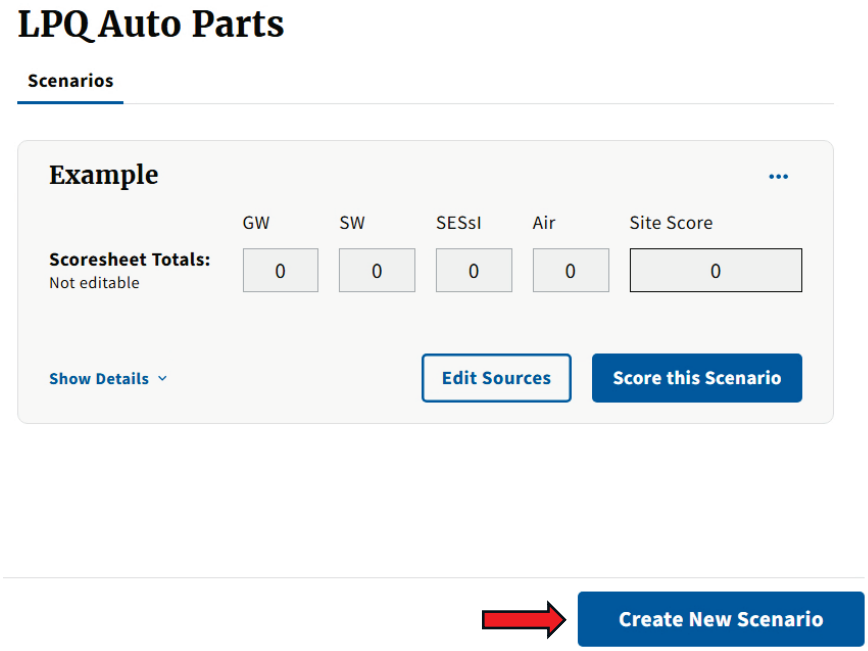


Figure 3-11: Create a New Scenario

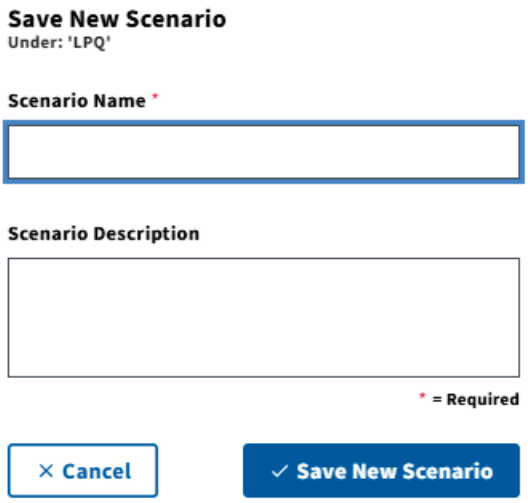


Figure 3-12: Save New Scenario

3.6 How do I duplicate a scenario?

If you want to duplicate a scenario, use the ellipsis "..." menu on the "Scenarios" page and select "Duplicate Scenario" see Figure 3-13. This will open a data entry box where you can edit the scenario name (see note on creating scenario names). Once you edit the name, click on "Duplicate Scenario" and your duplicate scenario will be created. You can then edit this additional scenario as needed.

Note: The scenario name should be brief and descriptive of the scenario. If your site has multiple scenarios, pick a name that will allow you to quickly identify the differences between each scenario.

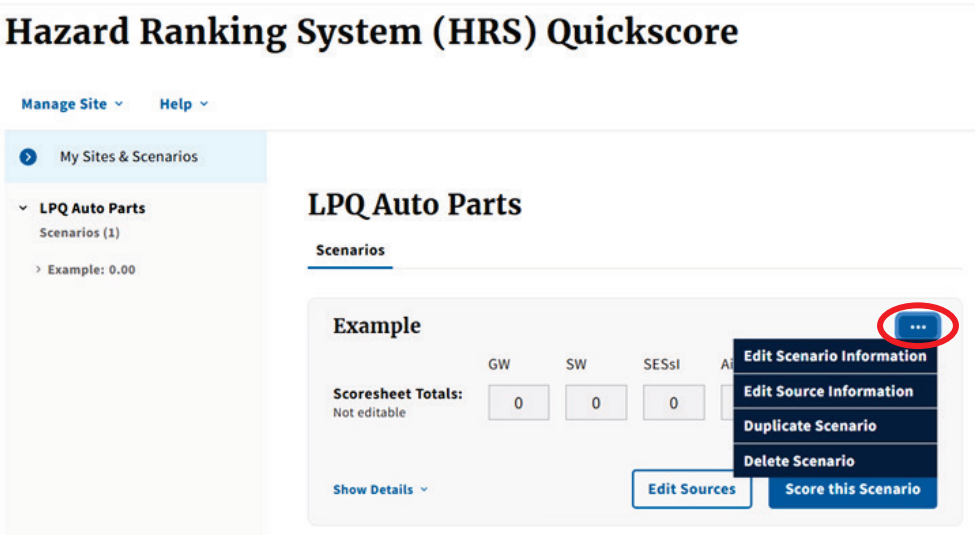


Figure 3-13: Duplicate a Scenario

3.7 How do I view and/or edit existing files?

If you want to immediately navigate to a specific existing site, scenario, source, or pathway, you can use the "My Sites & Scenarios" navigation panel located on the left side of the "Welcome" and "Scenarios" pages. Click on the site name and that will open the Scenarios page for that site. You can expand the scenario(s) by clicking on the scenario name. The source(s) and the pathways can also be expanded by clicking on those names in the "My Sites & Scenarios" navigation panel. You can enter the section of interest by clicking on it in the navigation panel or using the "Edit Sources" or "Score this Scenario" buttons as needed, see Figure 3-14.

Note: If you do not have any site information entered or imported, the "My Sites & Scenarios" navigation panel is not visible.

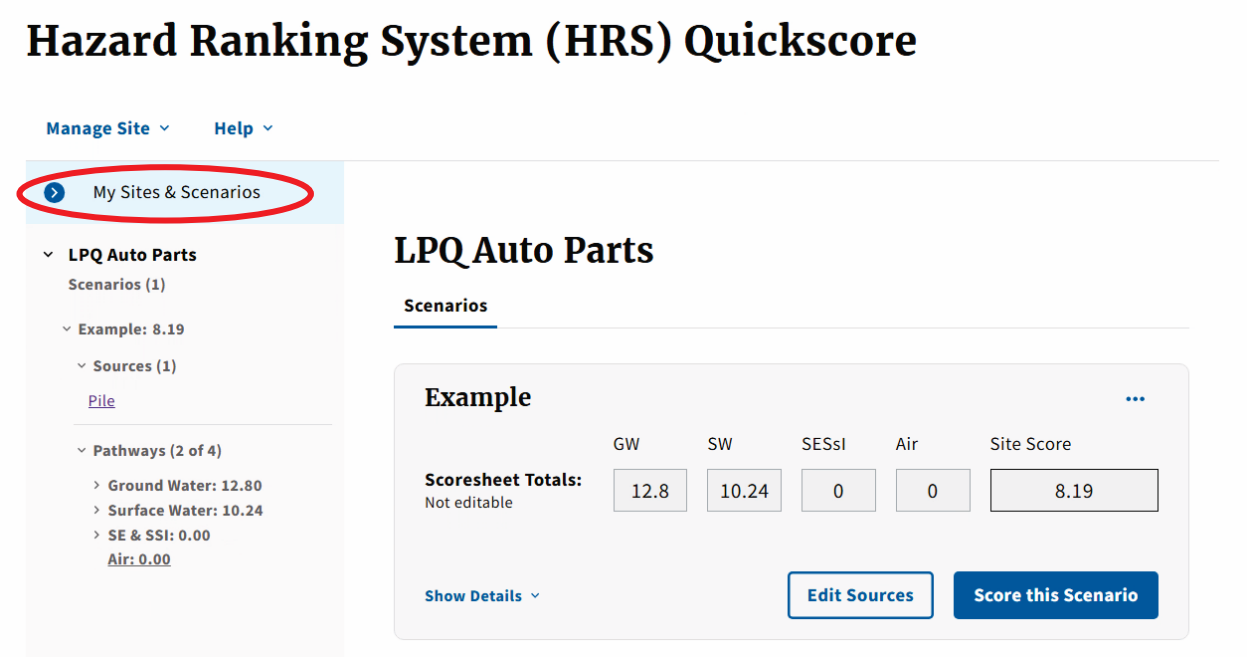
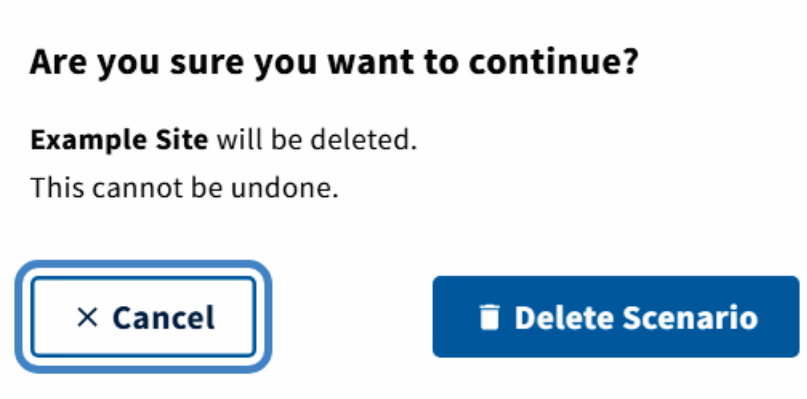


Figure 3-14: Navigation Panel

3.8 How do I delete a site or scenario?

To delete a or scenario, use the ellipsis "..."menu on the "Scenarios" page, see Figure 3-13. If you delete all of the scenarios associated with a site, that site will also be deleted. Please note that this is the only way to delete a site. When deleting, a window opens with a warning; select "Delete Scenario" if you wish to proceed, see Figure 3-15.



Note: The delete function is final and cannot be undone.

Figure 3-15: Scenario Deletion Warning

3.9 How do I update Superfund Chemical Data Matrix (SCDM) Values?

SCDM values are updated automatically when opening the Quickscore application; you do not have to take any additional steps. You can verify the date of SCDM values by viewing the "Welcome" page. See Figure 3-1.

3.9.1 How do I enter notes, references or other comments?

By clicking the blue pencil icon (see Figure 3-16), found near the bottom of the pages throughout Quickscore, a "Scratch Pad" for entering and recording specific information about sites, scenarios, pathways, sources or other data will open. The "Scratch Pad" is a way to track information and data that is relevant to your site, such as areas where you might want to gather additional information or as a method for noting references citations. The Pathway/Sources drop-down list will be pre-populated with the screen you were on when you pressed the pencil icon. You can change this by using the drop-down menu if you wish to enter information for another section of Quickscore. The Line # section of the "Scratch Pad" can be used to track which line of the scoresheet the information is relevant to, and the Documentation section can refer to the reference number or name. These items do not have to be populated to save the note. The Note section can consist of any relevant information you wish to include; for example, it can be specific sample concentrations, target values, or assumptions you made about the site. When you are ready to save your "Scratch Pad Note," click the "Save New Note" button, see Figure 3-17. To enter a new note, click the "New Note" button, see Figure 3-18. The "New Note" button only appears after you have saved a "Scratch Pad Note."

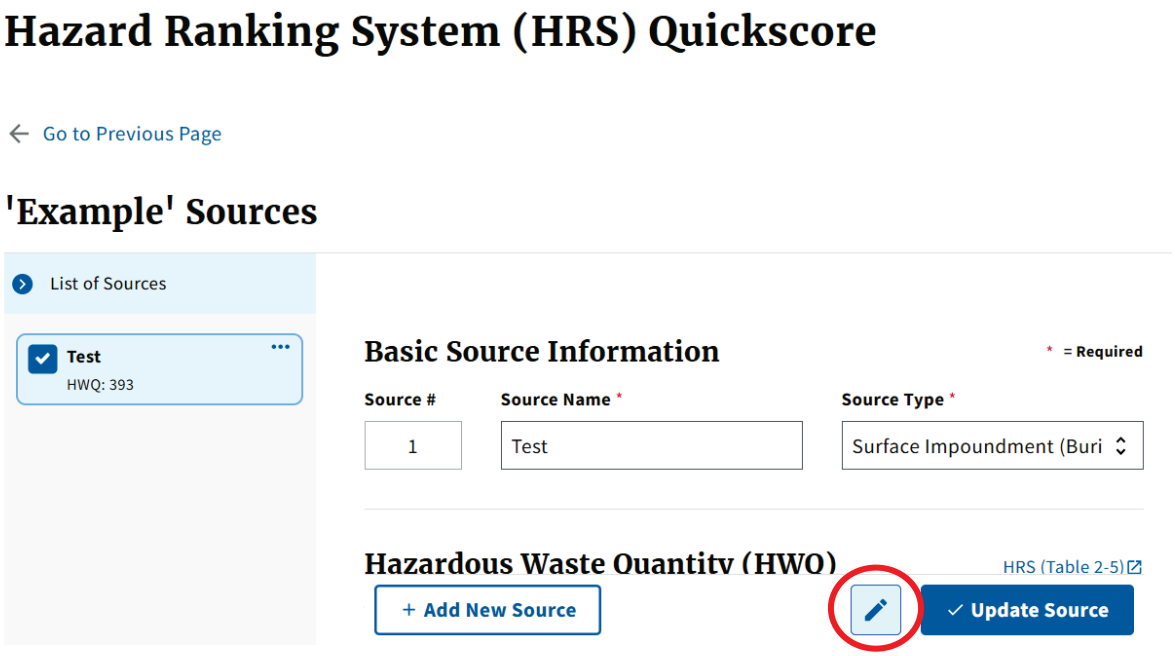


Figure 3-16: Scratch Pad Icon

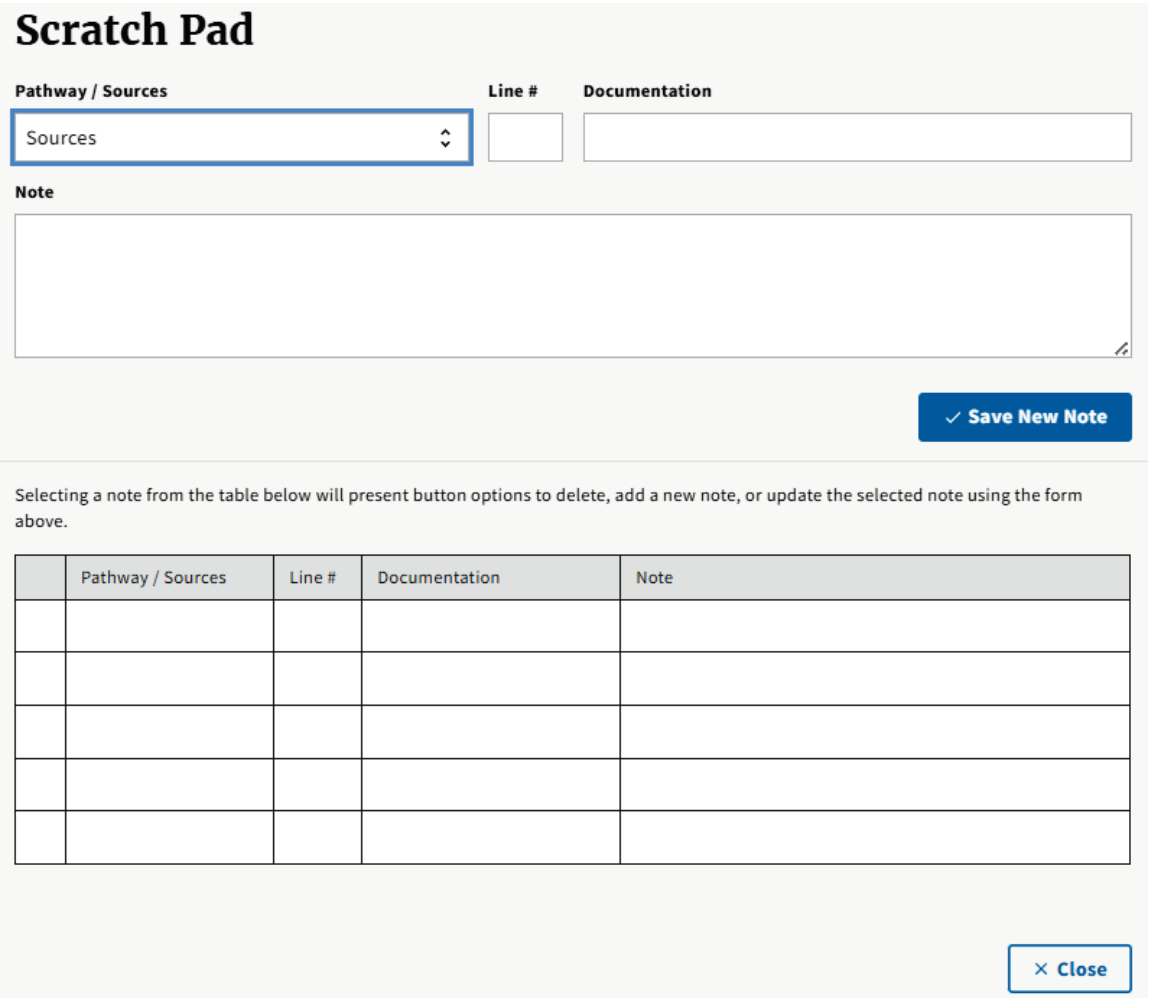


Figure 3-17: Scratch Pad - Save New Note

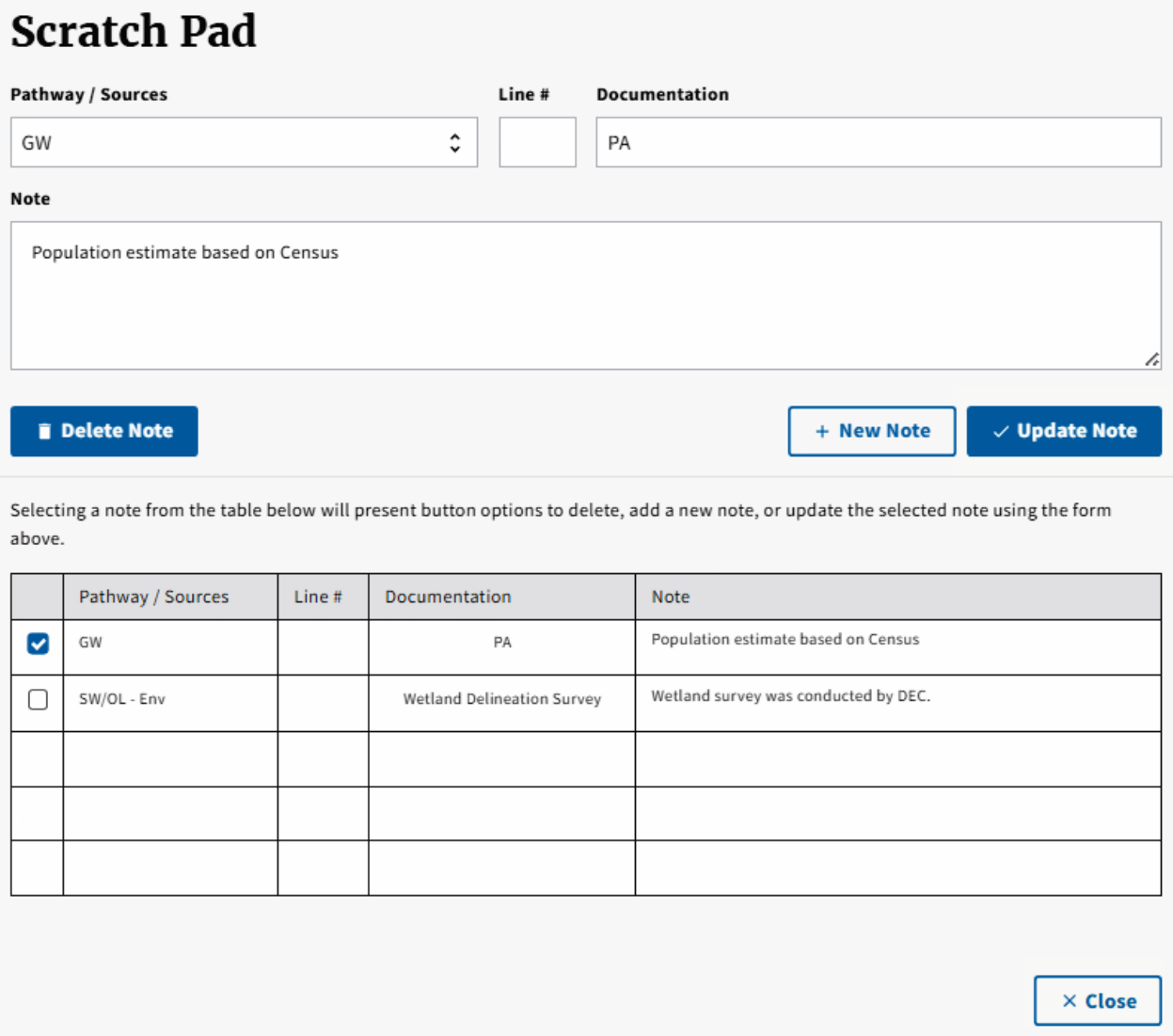


Figure 3-18: Update Note – Scratch Pad

You can also edit and delete your notes from this window. Check the box next to the note you wish to delete and select the "Delete Note" to delete. Your note will be deleted, there is no warning notice and once you delete a note, you cannot get it back. To edit the note, click the check box beside the note you wish to edit, make your desired changes and click the "Update Note" button. See Figure 3-18.

Click the "Close" button at the bottom of the page to close the "Scratch Pad" page.

To print the Scratch Pad Notes, select "Print" from the "Manage Site" menu and choose "Final Scoresheets" (see section 3.3.3 How do I print?). Then, check the box for "Include Notes" for the site you want to print the "Scratch Pad Notes" for. The notes will print at the very end of the scoresheets.

4 Scoring a site

The instructions in the following sections describe how to use Quickscore to generate a site score. You will learn how to enter site information, source information, and pathway specific information. Keep the disclaimer in mind as you use Quickscore.

Quickscore Disclaimer: Please note that the data and resulting scores rely on your understanding and adherence to the rules of the HRS. Use of this product does not guarantee that an HRS package submitted for National Priorities List (NPL) consideration is either qualified or compliant with the guidance and rules of the HRS. All HRS packages and scores are subject to EPA Headquarters inspection and qualification.

4.1 How do I enter Site Characteristics (site/scenario) information?

After clicking "Create a New Site" (see 3.3.2 How do I create a new site?, Figures 3-1 and 3-4), the "Create New Site, Site Basics" page will display. This page contains fields for the Site Name, Scenario Name, Scenario Description, EPA ID, State ID, City/County, State, EPA Region, Congressional District, Latitude and Longitude, Score Purpose, Evaluator Name, Evaluator Organization and Date. The State, Score Purpose, and Date fields have drop-down lists from which to choose values; EPA Region automatically populates based on the state that is chosen. Figure 4-1 shows a sample scenario containing some site information. Please use decimal degrees with four significant digits at a minimum when entering coordinates. A Site Name and a Scenario Name are required by Quickscore. Scenario Description, Location Details, and Evaluation Overview are optional; this information is not needed to obtain a site score with Quickscore.

Note: Except for certain territories in the Pacific Ocean, all sites in the U.S. states and territories are located within the northern and western hemispheres and will have a positive latitude sign and a negative longitude sign. The coordinate signs should be changed as necessary for sites in the southern and/or eastern hemispheres.

Remember to save your data as you enter information.

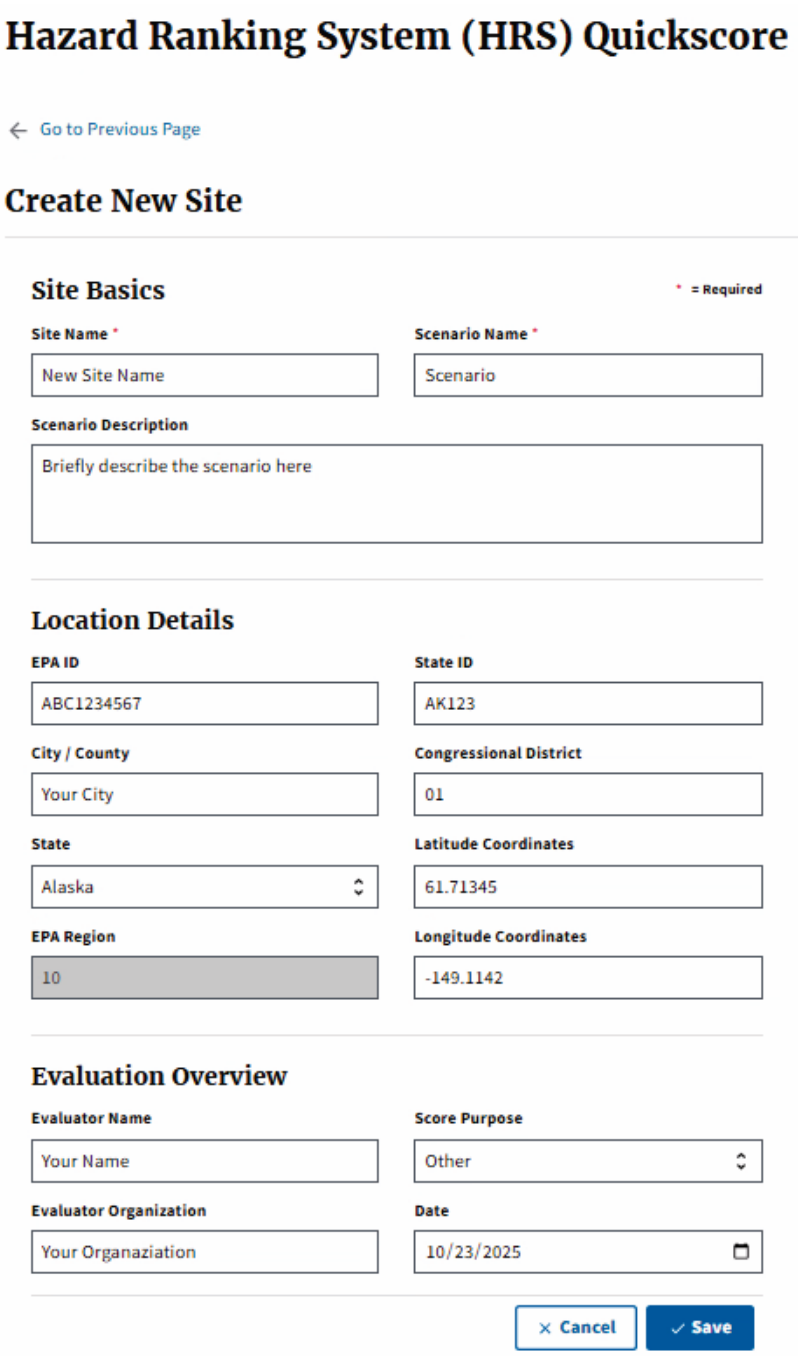


Figure 4-1: Site/Scenario Information Page

4.2 How do I enter source information?

Source information is entered by clicking on the "Edit Sources" button in the middle of the "Scenarios" page shown in Figure 4-2.

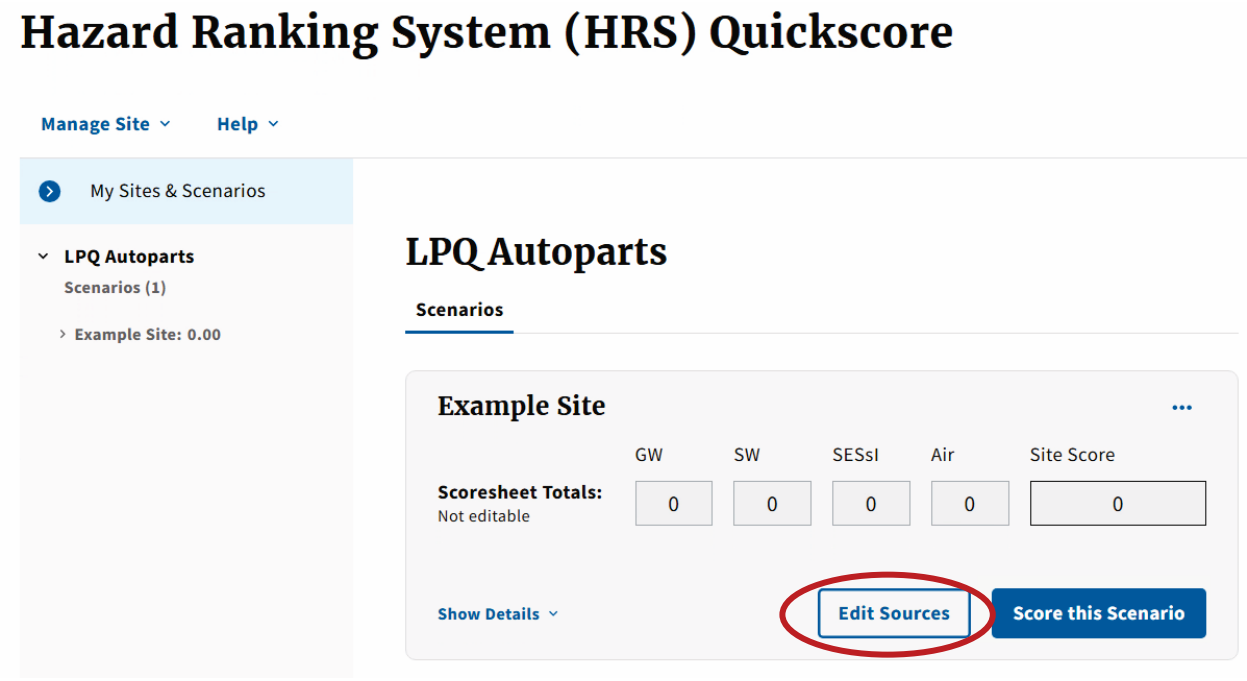


Figure 4-2: Scenarios Page

Quickscore will automatically number the sources as they are entered. Enter the Source Name and select the Source Type from the drop-down list. Although Quickscore automatically populates the Source # field, you may edit this value. A Source Name and Source Type must be completed before additional source information can be added, see Figure 4-3.

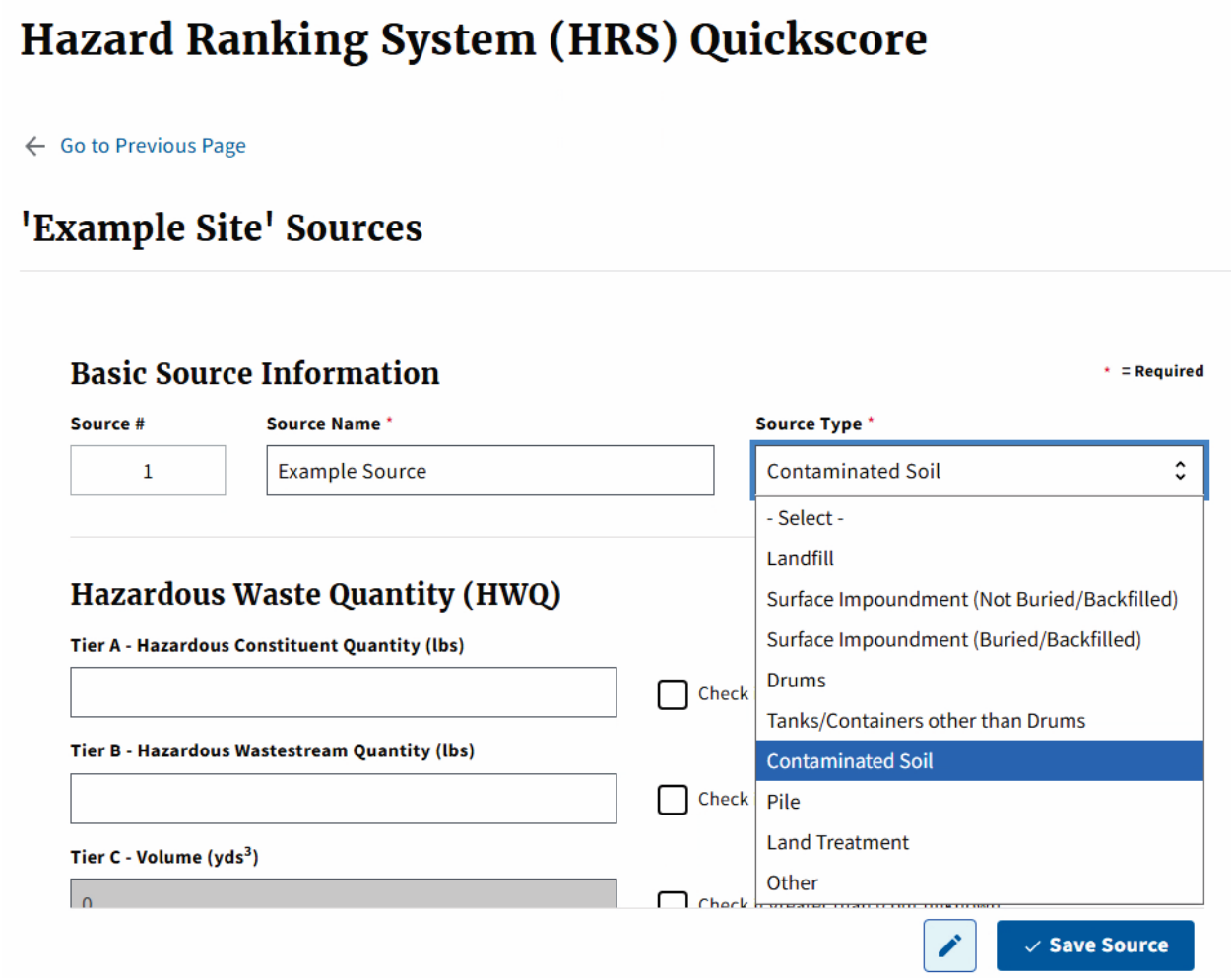


Figure 4-3: Basic Source Information

Next, enter the Hazardous Waste Quantity (HWQ) for the appropriate tier. Quickscore will automatically use the appropriate divisor from HRS Table 2-5 to calculate the HWQ and the Source Hazardous Waste Quantity (HWQ) value will show at the bottom of the HWQ section, see Figure 4-4.

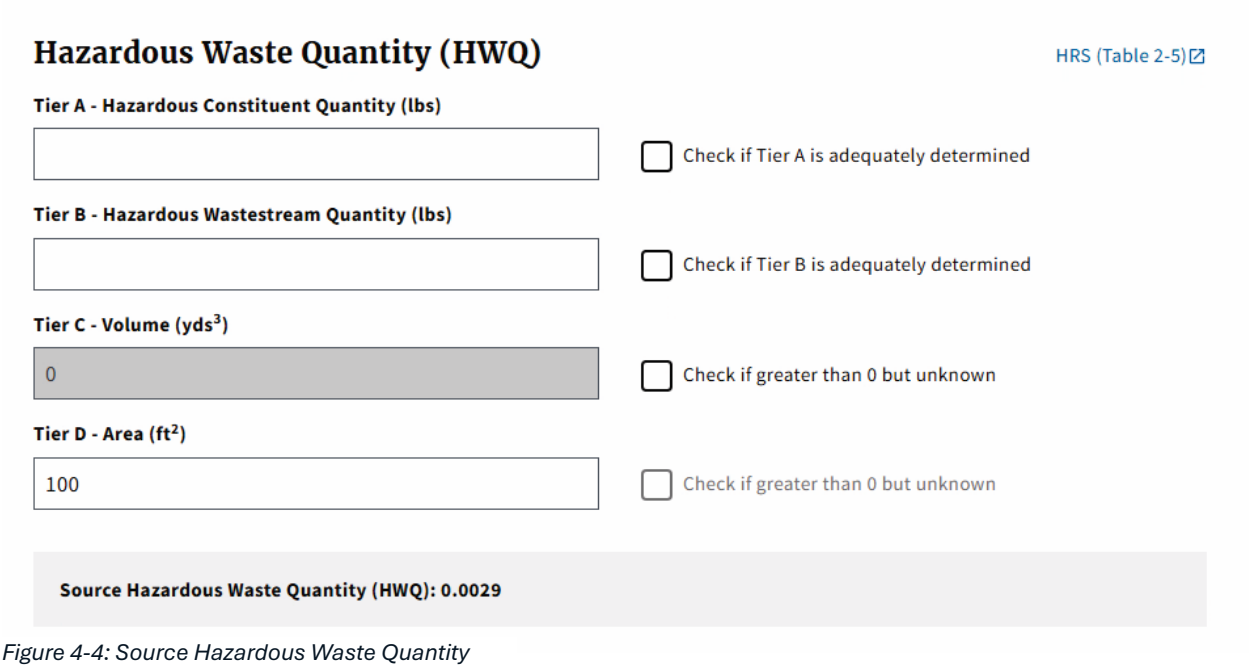


Figure 4-4: Source Hazardous Waste Quantity

Next, the "Associate Substances" section is used to select the hazardous substances associated with the source or the site, see Figure 4-5. See Section 4.2.1 How do I associate substances? below for more information.

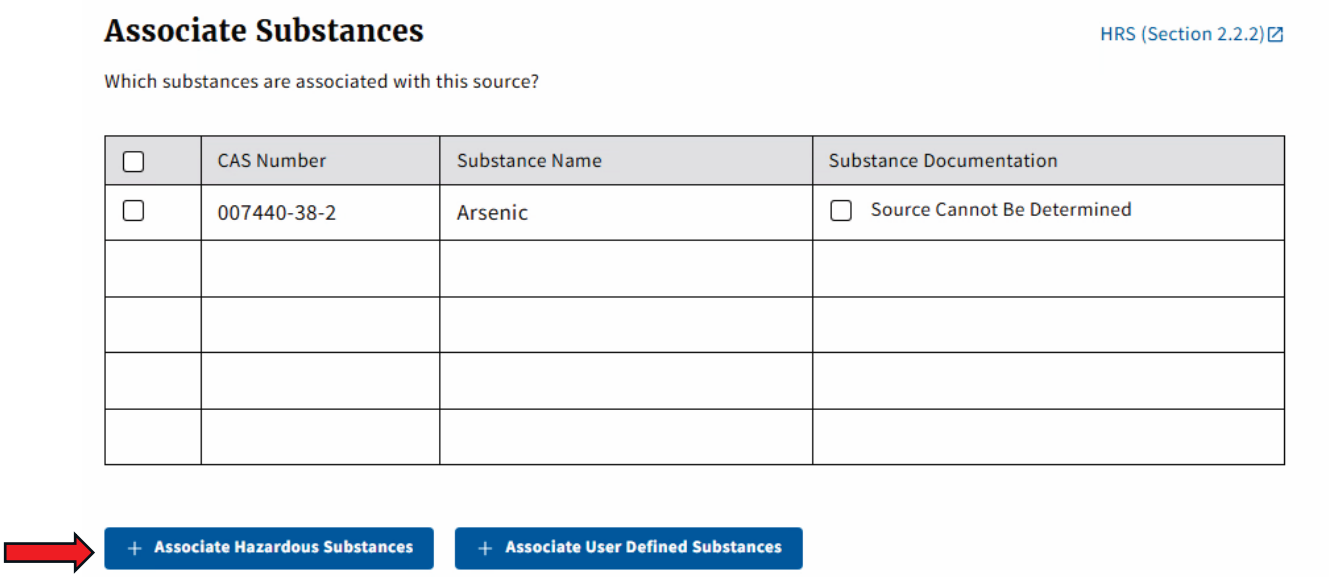


Figure 4-5: Associate Substances

Finally, check all pathways to which the substances in the source are available to migrate, and check the box if the source is being scored for the Soil Exposure Component. See Figure 4-6. If you do not check a pathway in the Substance Migration & Exposure section, Quickscore will warn you when you save the site, see Figure 4-7. You can either check the appropriate box or click "Save Source" again to clear the reminder message.

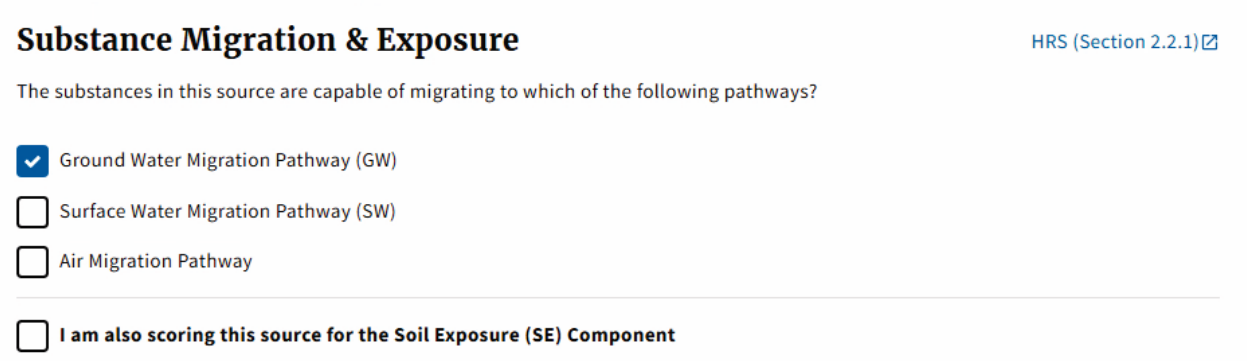


Figure 4-6: Substance Migration and Exposure

Note: If hazardous substances are not available in the pathway scoresheets, it is likely due to not checking the appropriate checkboxes in the Substance Migration & Exposure section of the "Basic Source Information" page.

Figure 4-7: Substance Migration and Exposure Warning Reminder

4.2.1 How do I associate substances?

On the "Basic Source Information" page, pressing the "Associate Hazardous Substances" button will open "Associate Substances" page for Superfund Chemical Data Matrix (SCDM) Substances and allow you to select hazardous substances associated with that source and/or site, see Figures 4-5 and 4-8. Quickscore uses the current version of SCDM. You can verify this by checking the Quickscore "Welcome" page to see the date of the current SCDM values used in Quickscore, see Figure 3-1.

If you have questions about the SCDM values, please see the SCDM website.

On the "Associate Hazardous Substances" page, you can search for SCDM values. You may search by Chemical Abstracts Service (CAS) number or by substance name. Substances are listed alphabetically. To begin a search, start typing the substance name or CAS number in the "Search by CAS Number or Substance Name" box, you can also scroll through the substances by using the scroll bar on the right of the table. To assign a substance to the source you are working in, check the box on the left of the table. If your substance is associated with the site but the specific source cannot be determined you can check the box in the Substance Documentation column that states, "Source Cannot Be Determined." Once the desired chemicals have been selected use the "Save & Continue" button to return to the "Basic Source Information" page. If a substance is associated with the site, it will appear in all sources, and it will be identifiable by an asterisk. Therefore, it will not be necessary to select this substance in the subsequent sources.

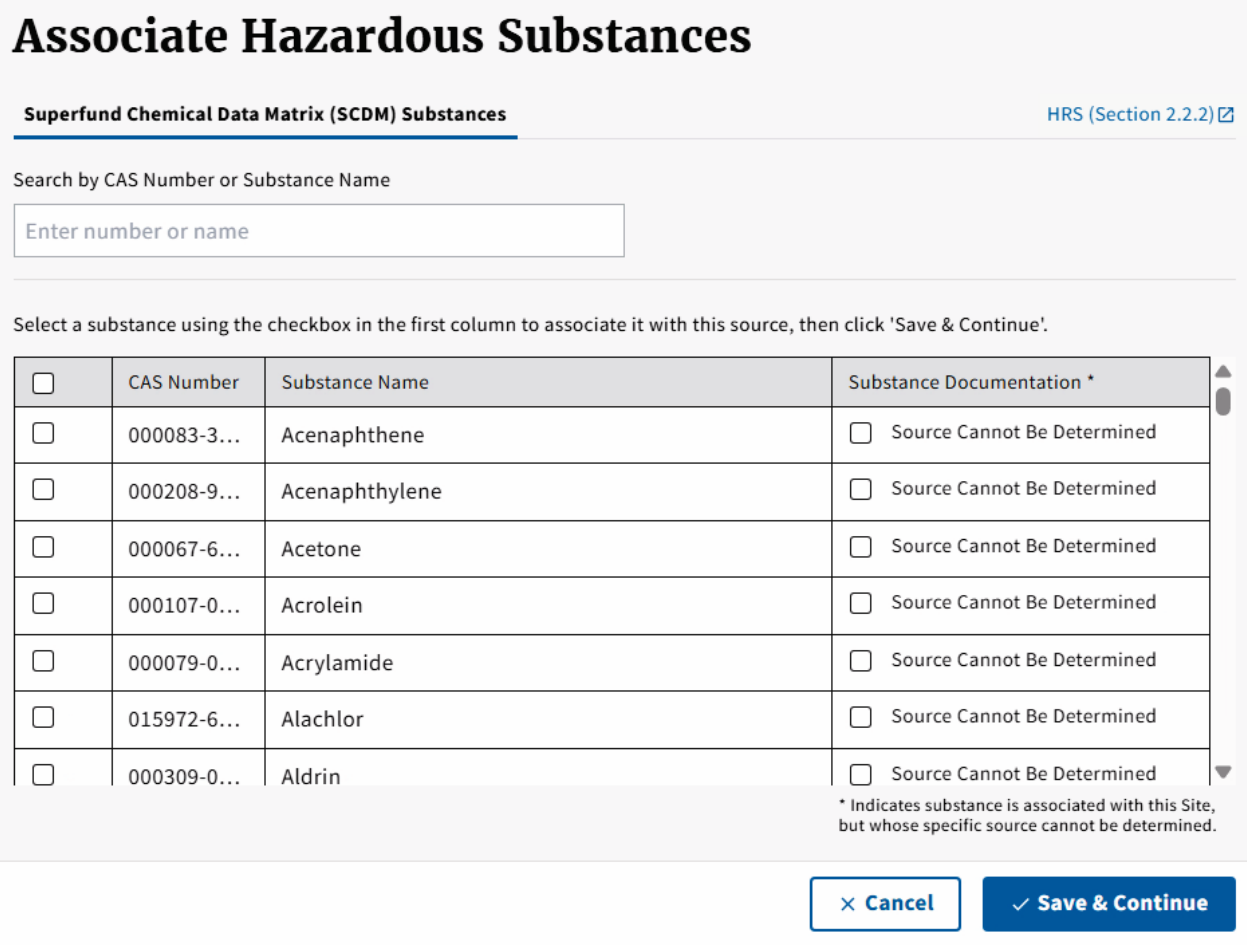
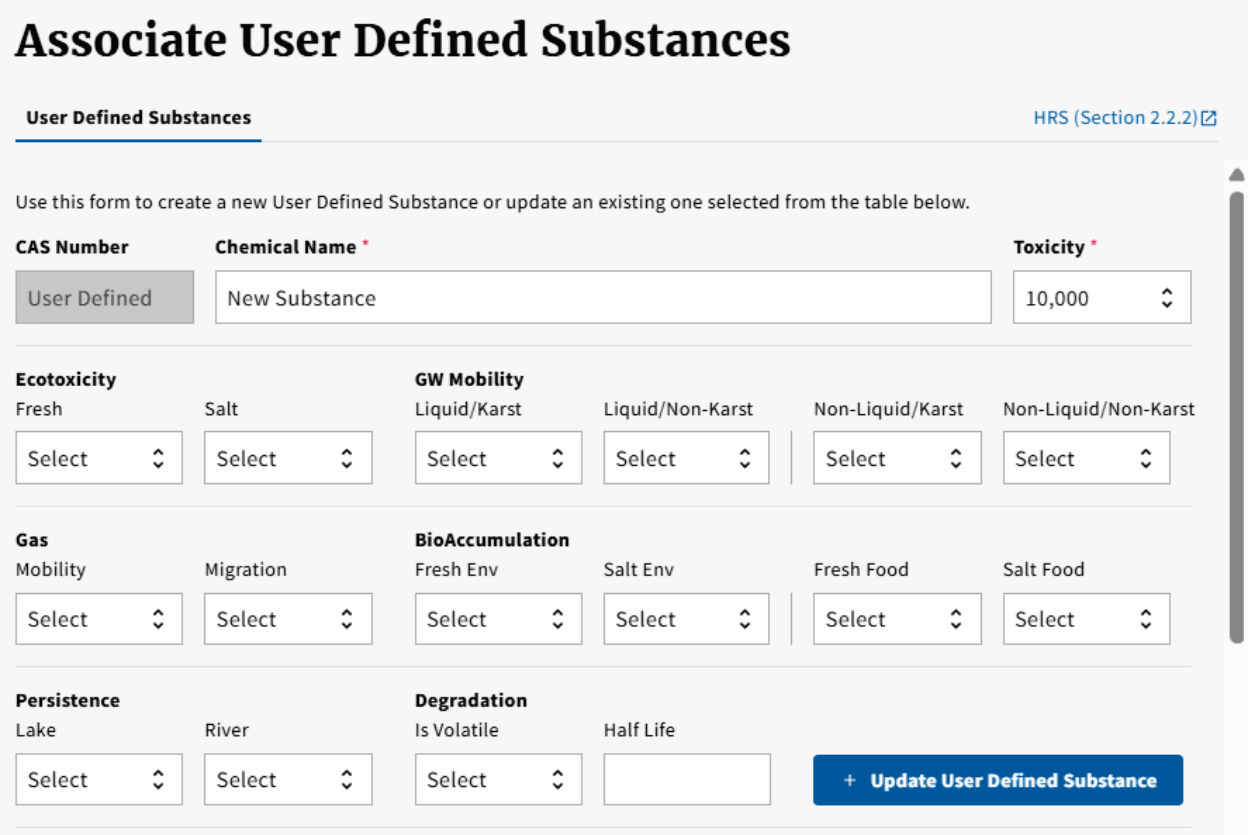


Figure 4-8: Associate SCDM Substances

In addition to substances contained within SCDM, there is an option to enter user defined substances. This allows you to enter a user defined substance rather than pick from SCDM. This feature accommodates substances which are not included in SCDM. On the "Basic Source Information" page, pressing the "Associate User Defined Substances" button will open the "Associate Substances" page for

"User Defined Substances" and allow the user to select hazardous substances associated with that source and/or site, see Figures 4-5 and 4-9. The "User Defined Substances" page works much the same way as the SCDM Substances page. After pressing the "Associate User Defined Substances" button, enter the chemical name (the CAS Number will be default "User Defined"). After entering the new substance name, use drop-down windows to assign toxicity, mobility, persistence and other factor values. Please note that a chemical name and toxicity is required before a new substance can be saved. After entering your substance and associated factor values, press the "Add To User Defined Substances" button and the substance will be available to be used for scoring sites within Quickscore. You can add user defined substances to sources and/or the site the same way SCDM substances are added, see above. Substances added by the user in this data entry field will be shown along with all other SCDM substances in the waste characteristics section of each of the HRS pathways pages. This will allow those "user defined" substances to be compared with SCDM substances to determine the most hazardous substance for the pathway, component or threat. A marker/indicator of "(UD)" before the user defined substance will be added to show you which substances and values are user defined.

A few things to consider, user defined substances are available to all sites/scenarios and importing a scenario JSON file will also import any user defined substances. Please do not assume that substances not listed in SCDM cannot be used for HRS scoring. If you have technical questions about SCDM, or if values are needed for a substance that is not listed in SCDM and are thought to be critical to the listing decision, please use SCDM contact information on the website.



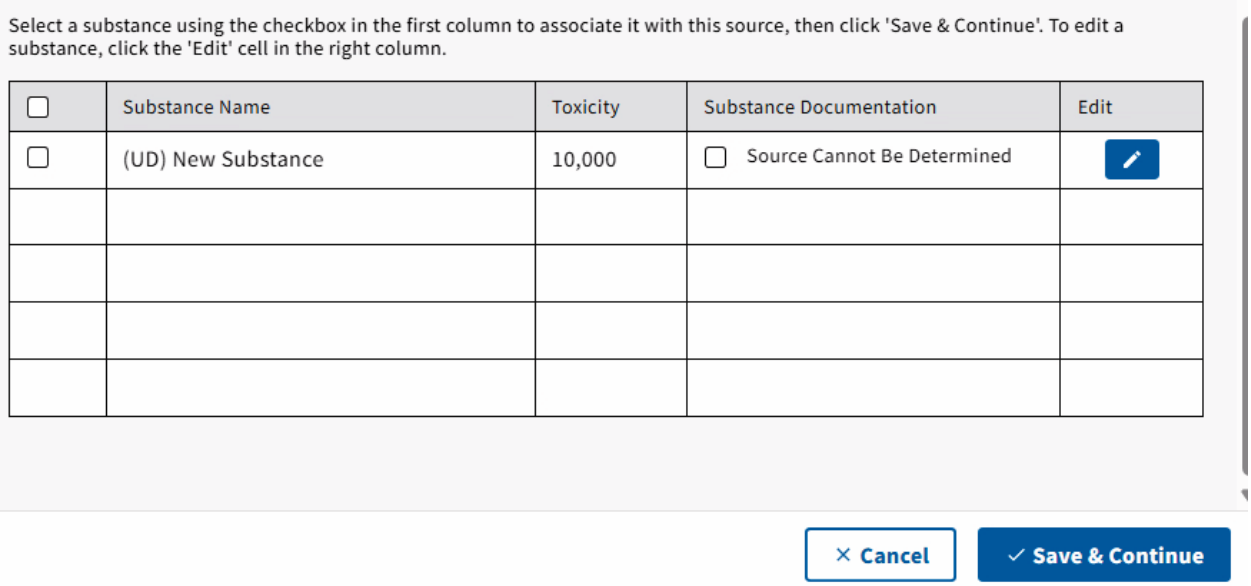


Figure 4-9: User Defined Substances

To edit values entered for a previously saved user defined substance from the "User Defined Substances" page, press the pencil icon button in the edit column on the right. The substance and associated values will populate the top portion of the page and allow you to make changes to any of the values. After you are finished editing click on the "Update User Defined Substance" button and the new information will population the table.

If a hazardous substance needs to be removed from the source, check the box next to the substance in the Associate Substances section of the "Basic Site Information" page and a "Remove Substance" button will appear, press this button to delete the substance from the source, see Figure 4-10.

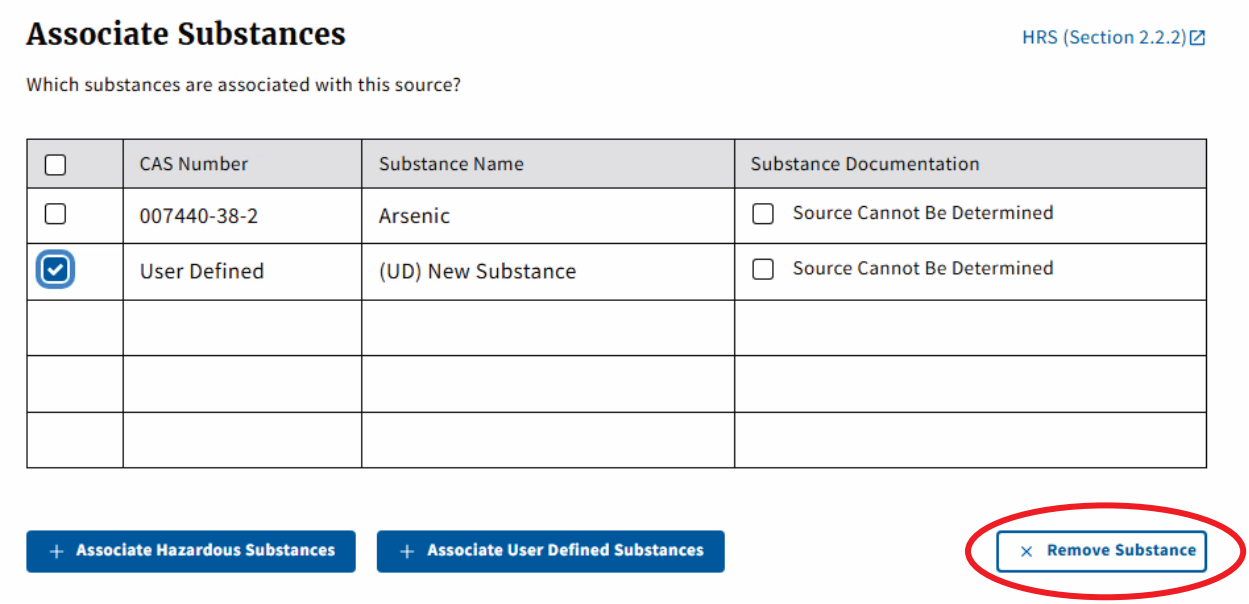


Figure 4-10: Removing Substances

4.2.2 How do I delete a source?

To delete a source, navigate to the "Basic Source Information" page and use the ellipsis menu "…" next to the source you wish to delete under the List of Sources on the left side of the page. When you select "Delete Source," you will be asked "Are you sure you want to continue?." Select "Delete Source" to delete the source, or "Cancel" if you do not want to delete the source, see Figures 4-11 and 4-12.

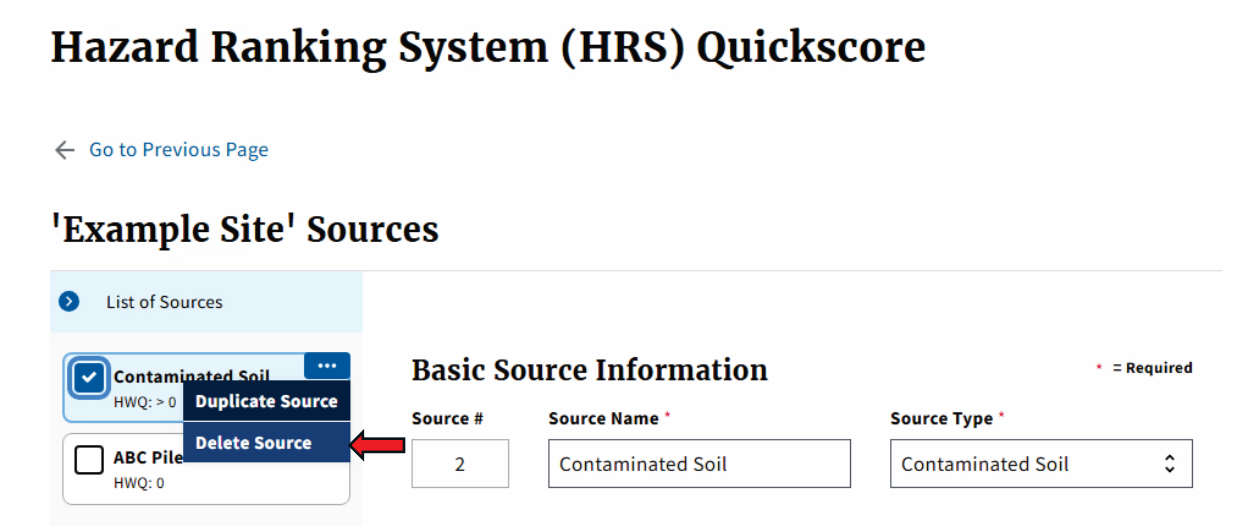


Figure 4-11: Deleting a Source

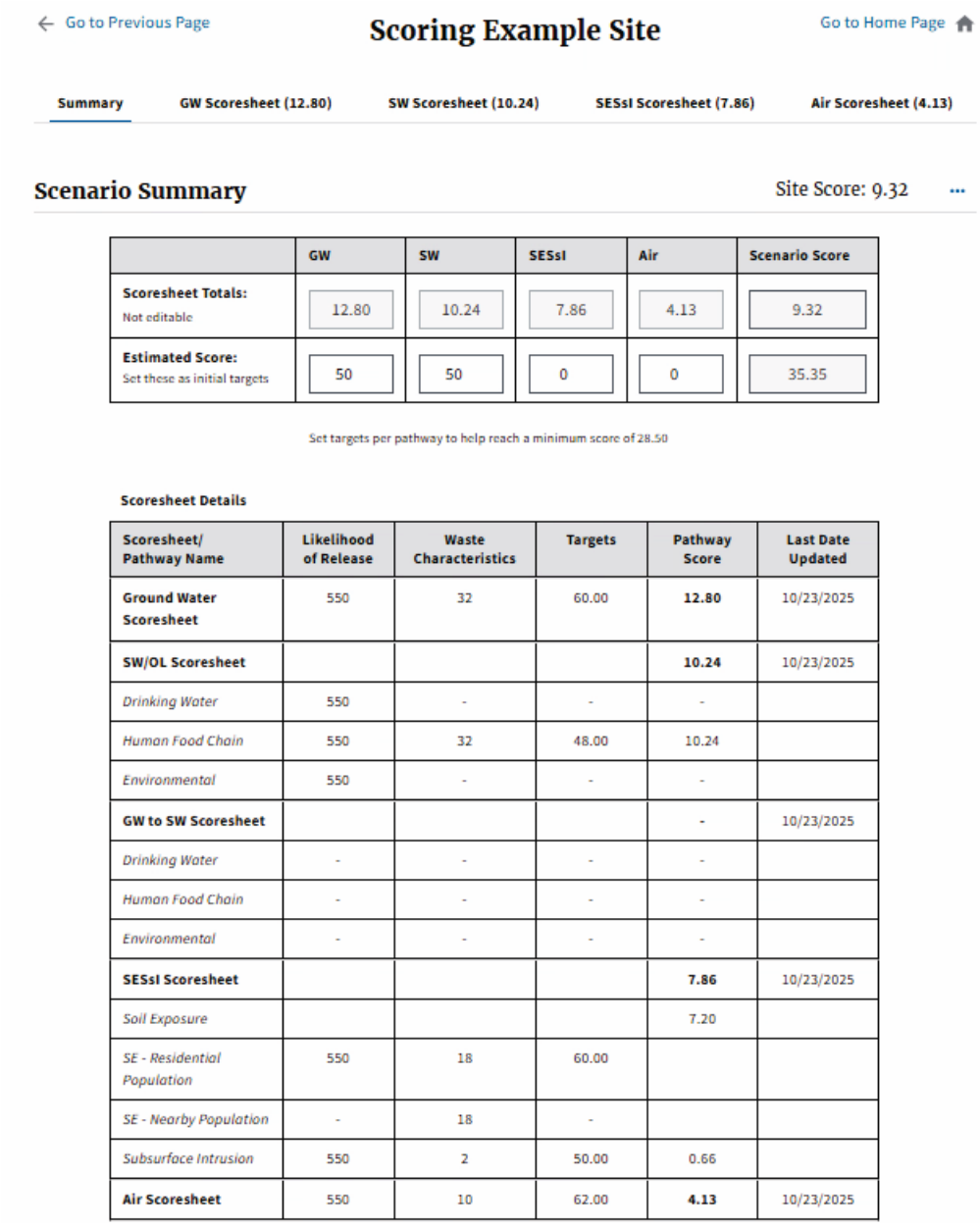
Figure 4-12: Source Deletion Warning

4.3 How do I calculate a score using Quickscore?

You can calculate the site score using one of two methods. One method is to enter pathway values directly into the "Scenario Summary" page in the Estimated Score row, see Figure 4-13. Quickscore will calculate the site score when pathway scores are entered by the user. This function is intended to allow you to see what combination of pathway scores will yield certain site scores (e.g., at or above 28.50) without having to enter specific pathway information.

The second method is to enter detailed information into the source page and pathway scoresheet pages. Quickscore will calculate the pathway score using the entered information, automatically populate the calculated pathway score into the "Scenario Summary" page, and calculate a site score from this data.

The "Scenario Summary" indicates the date that the score was last updated in the "Scoresheet Details" section of the page, see Figure 4-13.



← Go to Previous Page

Scoring Example Site

Go to Home Page

Summary | GW Scoresheet (12.80) | SW Scoresheet (10.24) | SESsI Scoresheet (7.86) | Air Scoresheet (4.13)

Scenario Summary Site Score: 9.32

	GW	SW	SESsI	Air	Scenario Score
Scoresheet Totals: Not editable	12.80	10.24	7.86	4.13	9.32
Estimated Score: Set these as initial targets	50	50	0	0	35.35

Set targets per pathway to help reach a minimum score of 28.50

Scoresheet Details

Scoresheet/ Pathway Name	Likelihood of Release	Waste Characteristics	Targets	Pathway Score	Last Date Updated
Ground Water Scoresheet	550	32	60.00	**12.80**	10/23/2025
SW/OL Scoresheet				**10.24**	10/23/2025
Drinking Water	550	-	-	-	
Human Food Chain	550	32	48.00	10.24	
Environmental	550	-	-	-	
GW to SW Scoresheet				-	10/23/2025
Drinking Water	-	-	-	-	
Human Food Chain	-	-	-	-	
Environmental	-	-	-	-	
SESsI Scoresheet				**7.86**	10/23/2025
Soil Exposure				7.20	
SE - Residential Population	550	18	60.00		
SE - Nearby Population	-	18	-		
Subsurface Intrusion	550	2	50.00	0.66	
Air Scoresheet	550	10	62.00	**4.13**	10/23/2025

Figure 4-13: Scenario Summary

4.4 How do I use the pathway scoresheets?

Each pathway has its own scoresheet. The pathway scoresheets can be accessed by clicking the "Score this Scenario" button on the "Scenarios" page (see Figure 3-11). "Summary," "GW Scoresheet," "SW Scoresheet," "SESsI Scoresheet," and "Air Scoresheet" pages can be accessed using the links at the top of the "Scoring" page.

4.4.1 How do I use the Scenario Summary?

As discussed in Section 4.3 How do I calculate a score using Quickscore?, you can enter pathway scores directly into the "Scenario Summary" page to obtain a site score in the Estimated Score section, see Figure 4-13. This page also summarizes all of the pathway scores and the site score based on information entered on the individual pathway scoresheets. You can access the pathway scoresheets by clicking on the pathway name above the "Scenario Summary" page, see Figure 4-14.

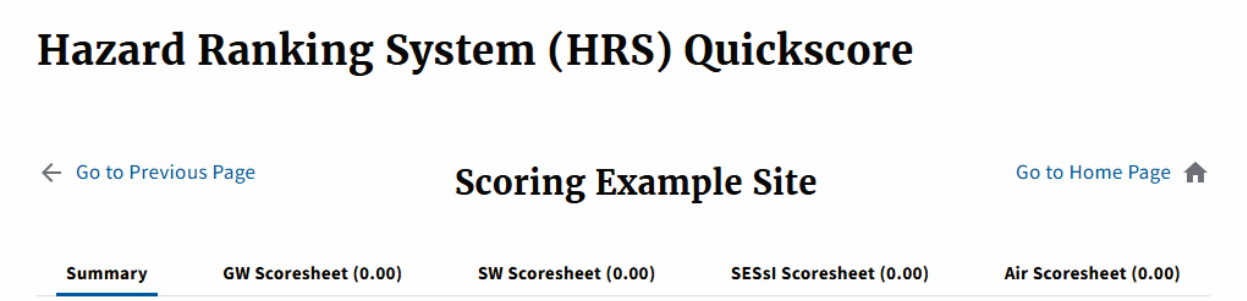


Figure 4-14: Accessing Pathway Scoresheets

4.4.2 How do I use the Ground Water (GW) Scoresheet?

To use the "GW Scoresheet," you must first enter an Aquifer Name. This is a required field. If you enter more than one aquifer, Quickscore will use the highest scoring aquifer in calculating the pathway score. If you would like Quickscore to use an aquifer other than the highest scoring aquifer for the pathway score, check the box next to the aquifer you wish to be used in the site score, see Figure 4-15. Click "Add New Aquifer" to enter additional aquifers. The "GW Scoresheet" has three sections:

- Likelihood of Release where information about the Observed Release or Potential to Release is entered.
- Waste Characteristics where information related to the toxicity and mobility, and the Hazardous Waste Quantity Factor Value is calculated.
- Targets where population information is entered

You can use the links under "Select a Factor Category to Navigate On This Page" to skip to these specific data entry sections.

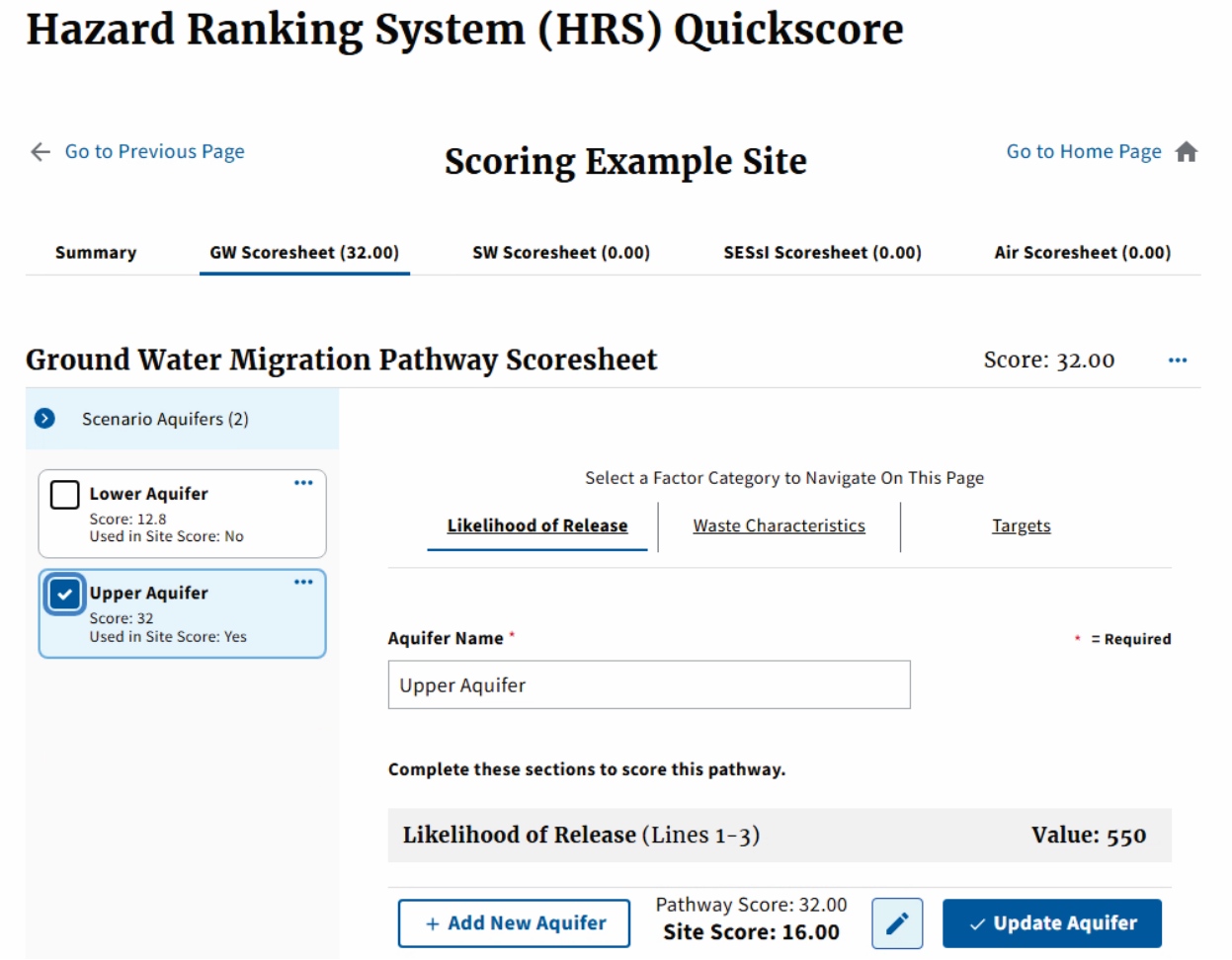


Figure 4-15: Ground Water Scoresheet Aquifer Name

4.4.2.1 How do I calculate a Ground Water Pathway score?

The rest of this scoresheet provides data entry fields for information about the Likelihood of Release, Waste Characteristics and Targets, used to calculate a Ground Water Pathway Score. After entering your aquifer name, use the drop-down boxes to enter information about the Observed Release or the Potential to Release for the Aquifer. Once this information is entered, the program automatically calculates the Likelihood of Release Factor Category Value.

Remember to save as you go by pressing the "Save Aquifer" or "Update Aquifer" button at the bottom of the page.

Next, choose a substance to assign ground water mobility types to the hazardous substances, see Figure 4-16. First, select the substance by checking the box next to the substance and then use the Choose a Mobility Type drop-down menu to assign the ground water mobility type to the hazardous substance, you will repeat these steps for each substance. The Choose a Substance summary table allows you to see the properties of the substances, see Figure 4-16. The Using Substance box will list the substance(s) with the highest Toxicity/Mobility value that is being used for the Waste Characteristics calculation. The HWQ

factor value is automatically populated by information entered on the Sources page. Minimum HWQ factor values are automatically assigned when actually contaminated targets or Nearest Well values of 45 or greater are entered.

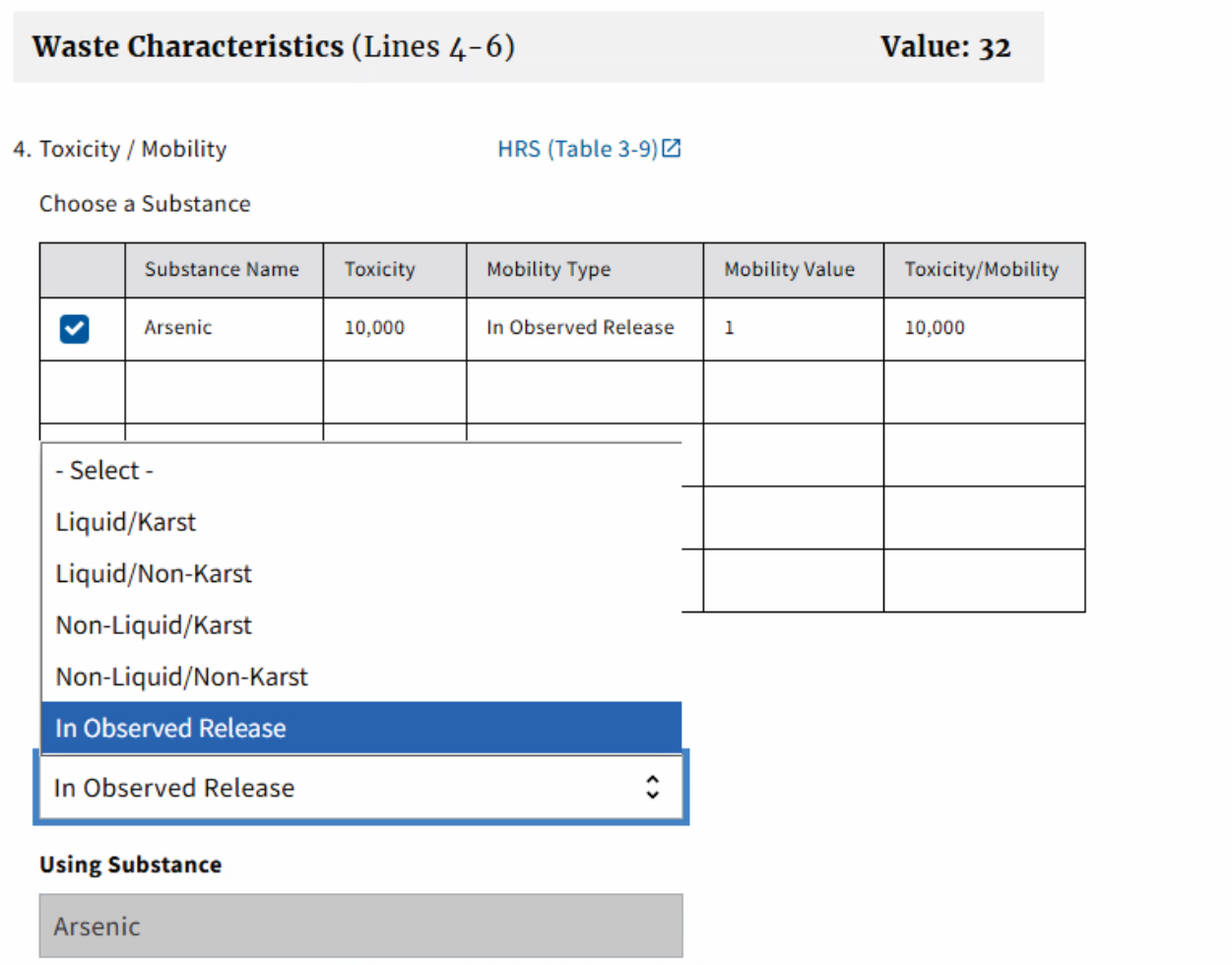


Figure 4-16: Assigning Toxicity/Mobility

Next, you will use the drop-down boxes and fill-in boxes to enter target information. Note that when you enter the number of targets for Level I and Level II Concentrations and Potential Contamination, Quickscore will automatically apply the appropriate multiplier for the Population value. For Potential Contamination, use the HRS Distance-Weighted Population Table 4-12 to determine the distance weighted population, enter that value for potential population, and then Quickscore will apply the appropriate multiplier. Be sure to save as you go by pressing the "Save Aquifer" or "Update Aquifer" button at the bottom of the page, see Figure 4-17. At the bottom of this page, you will find the Aquifer Score, Ground Water Migration Pathway Score (the highest value of all the aquifers a being evaluated or the aquifer you selected to be used in the site score), and the Uncapped Score of the Aquifer.

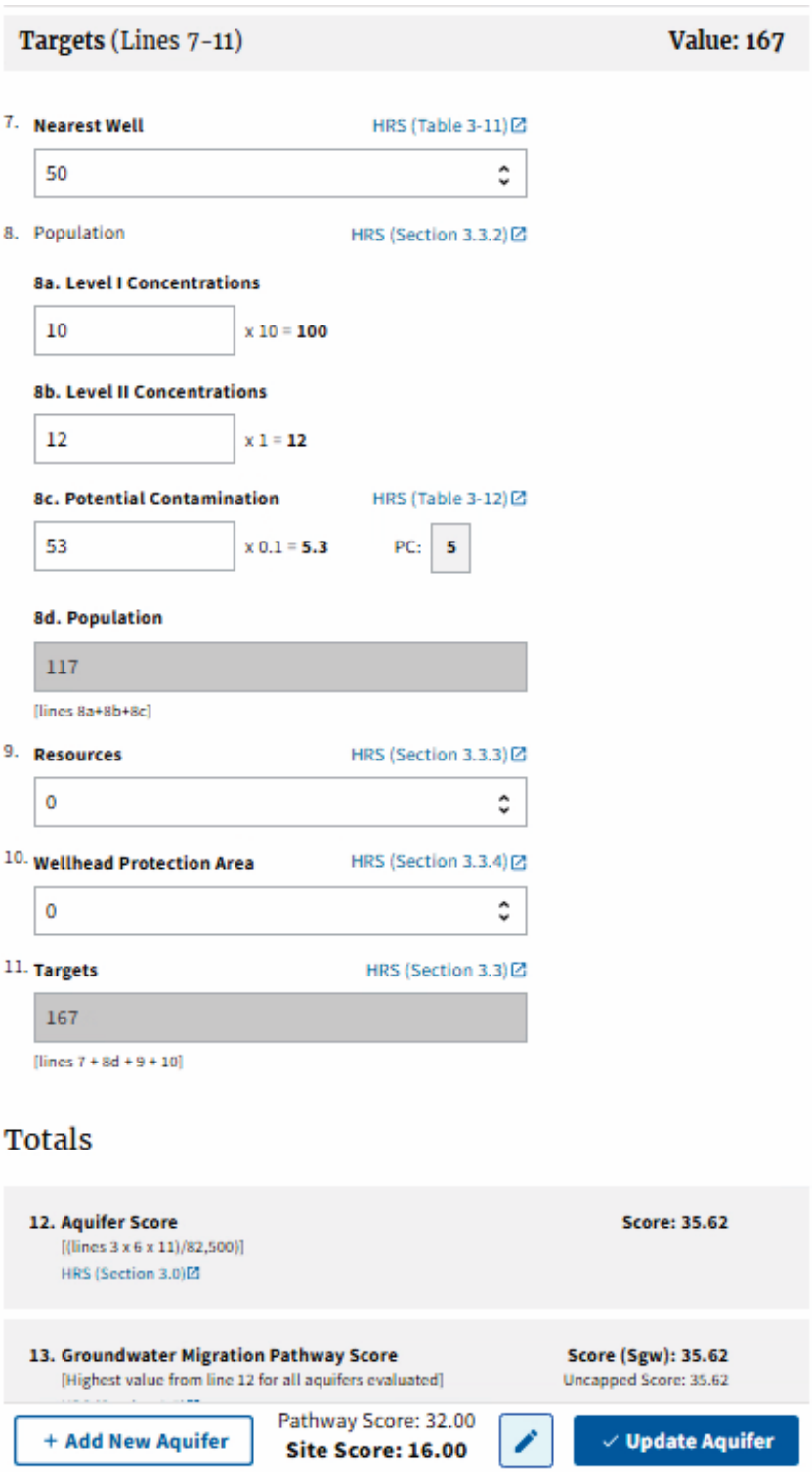


Figure 4-17: Ground Water Pathway Targets

4.4.2.2 How do I add or delete aquifers?

Note: The delete function is final and cannot be undone.

To add a new aquifer, press the "Add New Aquifer" button at the bottom of the page and repeat the above steps. To delete an aquifer, use the ellipsis "…" menu next to the aquifer you want to delete and select "Delete Aquifer," see Figure 4-18. A warning box will appear that will ask if you are sure you want to continue and the name of aquifer you are about to delete; press "Delete Aquifer" to continue or "Cancel" if you do not wish to delete the aquifer, see Figure 4-19. You can also duplicate an aquifer by using the ellipsis "…" menu and selecting "Duplicate Aquifer," see Figure 4-18.

Figure 4-18: Ground Water Pathway Delete and Duplicate Aquifer

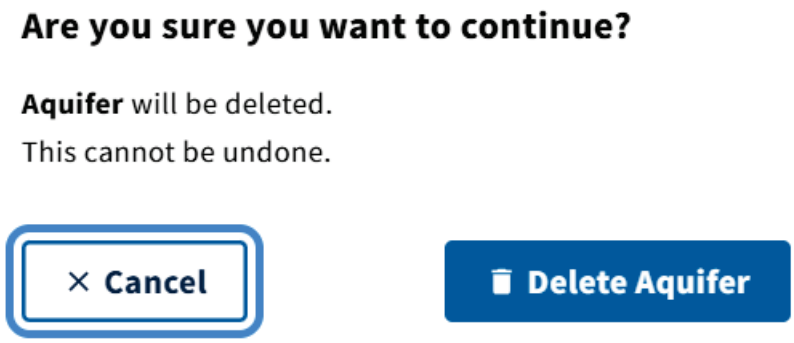


Figure 4-19: Aquifer Deletion Warning

4.4.3 How do I use the Surface Water (SW) Scoresheet?

The "SW Scoresheet" is divided into two components, the "Surface Water/Over Land Scoresheet" and the "Ground Water to Surface Water Scoresheet". The "Surface Water Migration Pathway Scoresheet" has two buttons at the top of the "SW Scoresheet" to allow you to access either "Surface Water/Over Land Scoresheet" and the "Ground Water to Surface Water Scoresheet". The component you are working in will be underlined and shaded light blue, see Figure 4-20.

Each component under the "SW Scoresheet" has four sections:

- Likelihood of Release where information about the Observed Release or Potential to Release is entered.
- Drinking Water where waste characteristics and target information for the Drinking Water Threat are entered.
- Human Food Chain where waste characteristics and target information for the Human Food Chain Threat are entered.
- Environmental where waste characteristics and target information for the Environmental Threat are entered.

You can use the links under "Select a Factor Category or Threat to Navigate On This Page" to skip to these specific data entry sections.

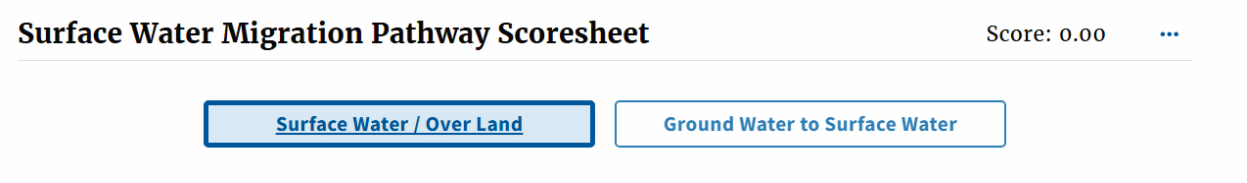


Figure 4-20: Surface Water Migration Pathway Scoresheet Components

As mentioned, these two components have three threats: Drinking Water, Human Food Chain, and Environmental. To use the "SW Scoresheet" you must first enter a Watershed Name, this is a required field. Once a name is entered the rest of the scoresheet can be filled out. If you enter more than one watershed, Quickscore will use the highest scoring watershed in calculating the pathway score. If you would like Quickscore to use a watershed other than the highest scoring watershed for the pathway score, check the box next to the watershed you wish to be included in the site score, see Figure 4-21.

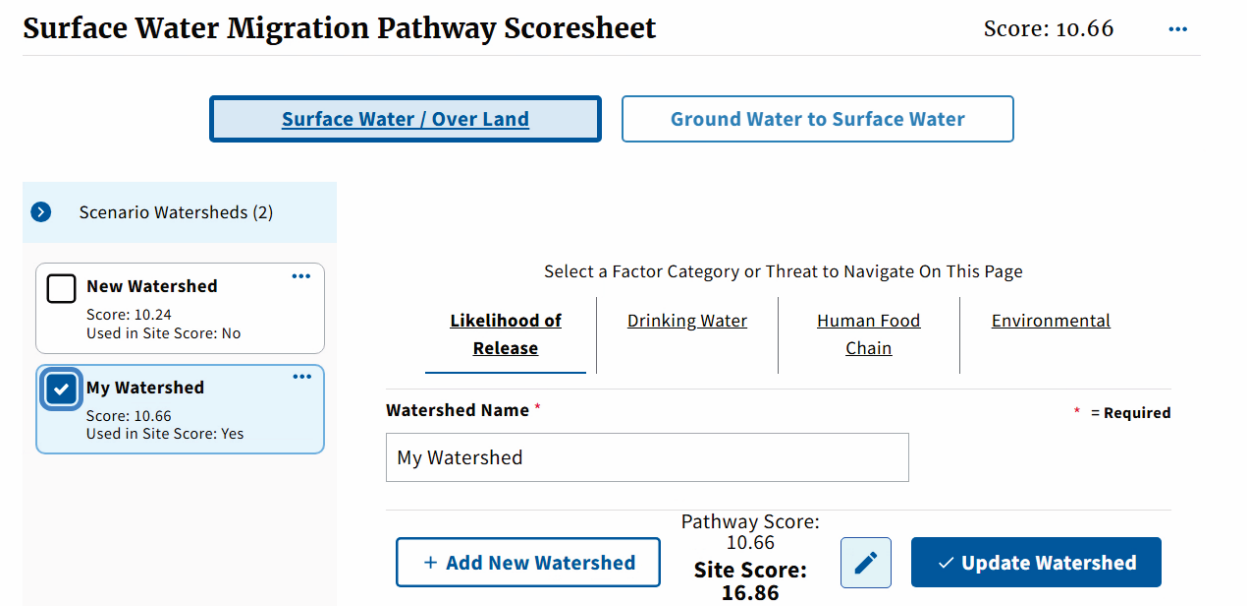


Figure 4-21: Surface Water Pathway Watershed Information

4.4.3.1 How do I enter the Overland Flow component?

Remember to save as you go by pressing the "Save Watershed" or "Update Watershed" button at the bottom of the page.

After you enter your Watershed Name, verify you are in the "Surface Water / Over Land" section by checking to see that component is underlined and shaded blue, if it is not press "Surface Water / Over Land" the button near the top of the page. Use the drop-down boxes to enter information about the Observed Release or the Potential to Release by Overland Flow for the watershed. The program automatically calculates the Likelihood of Release. Then, for each threat, you will enter specific information about Waste Characteristics and Targets.

You can navigate between the different threats by using the selecting a factor category or threat near the top of the page, see Figure 4-21.

For the Drinking Water Threat, choose a substance to assign surface water persistence types to the hazardous substances, see Figure 4-22. First, select the substance by checking the box next to the substance and then use the drop-down menu to "Choose a Predominant Water Category (Persistence)"; you will repeat these steps for each substance. The Choose a Substance summary table allows you to see the properties of the substances. The "Using Substance" box will list the substance(s) with the highest Toxicity/Persistence value that is being used for the Waste Characteristics calculation. The HWQ factor value is automatically populated by information entered on the sources page. Minimum HWQ factor values are automatically assigned when actually contaminated targets or Nearest Intake values of 45 or greater are entered.

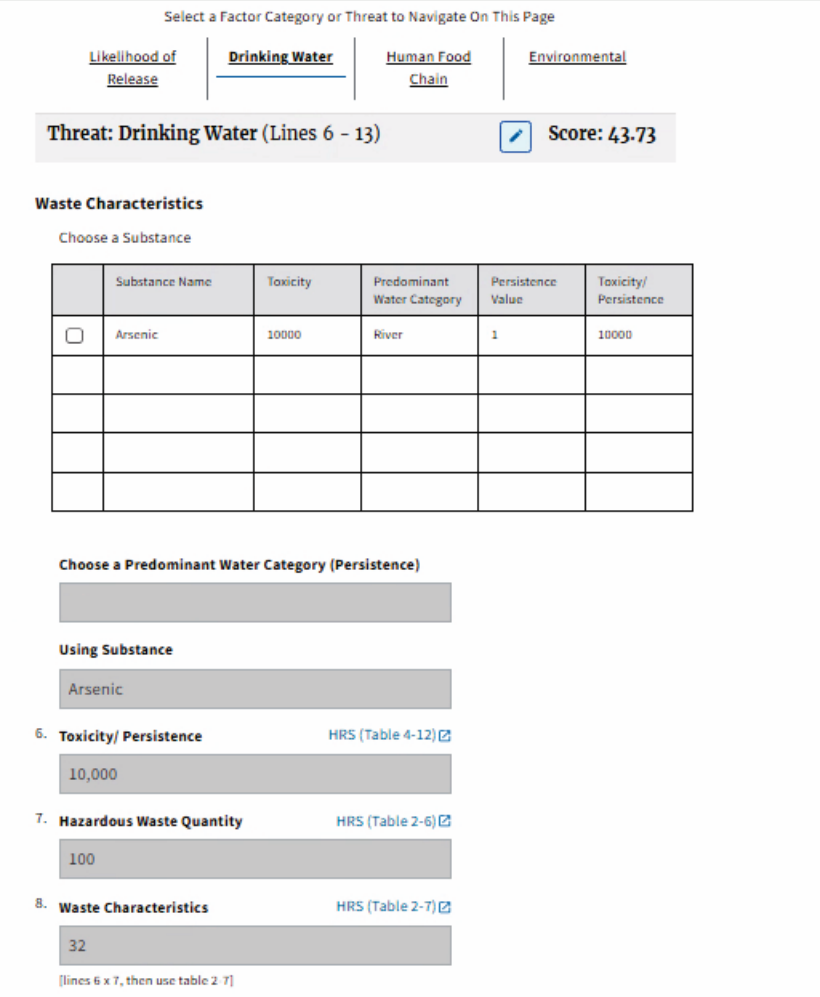


Figure 4-22: Surface Water Pathway Drinking Water Threat Waste Characteristics

Next, you will use the drop-down boxes and fill-in boxes to enter information for the Drinking Water Threat Targets. Note that when you enter the number of targets for Level I and Level II Concentrations and Potential Contamination, Quickscore will automatically apply the appropriate multiplier for the Population value. For Potential Contamination, use the HRS Dilution-Weighted Population Table 4-14 to determine the distance-weighted population, enter that value for potential population, and the program will apply the appropriate multiplier. The Waste Characteristics value may also recalculate automatically depending on the information entered in the Targets Section. At the bottom of this page, you will find the Drinking Water Threat Score, the Uncapped Score, the Watershed Score (the sum of the Threats), and the Surface Water Overland Flow Component Score (the highest value of all the watersheds being evaluated or the watershed you selected to be used in the site score), see Figure 4-23.

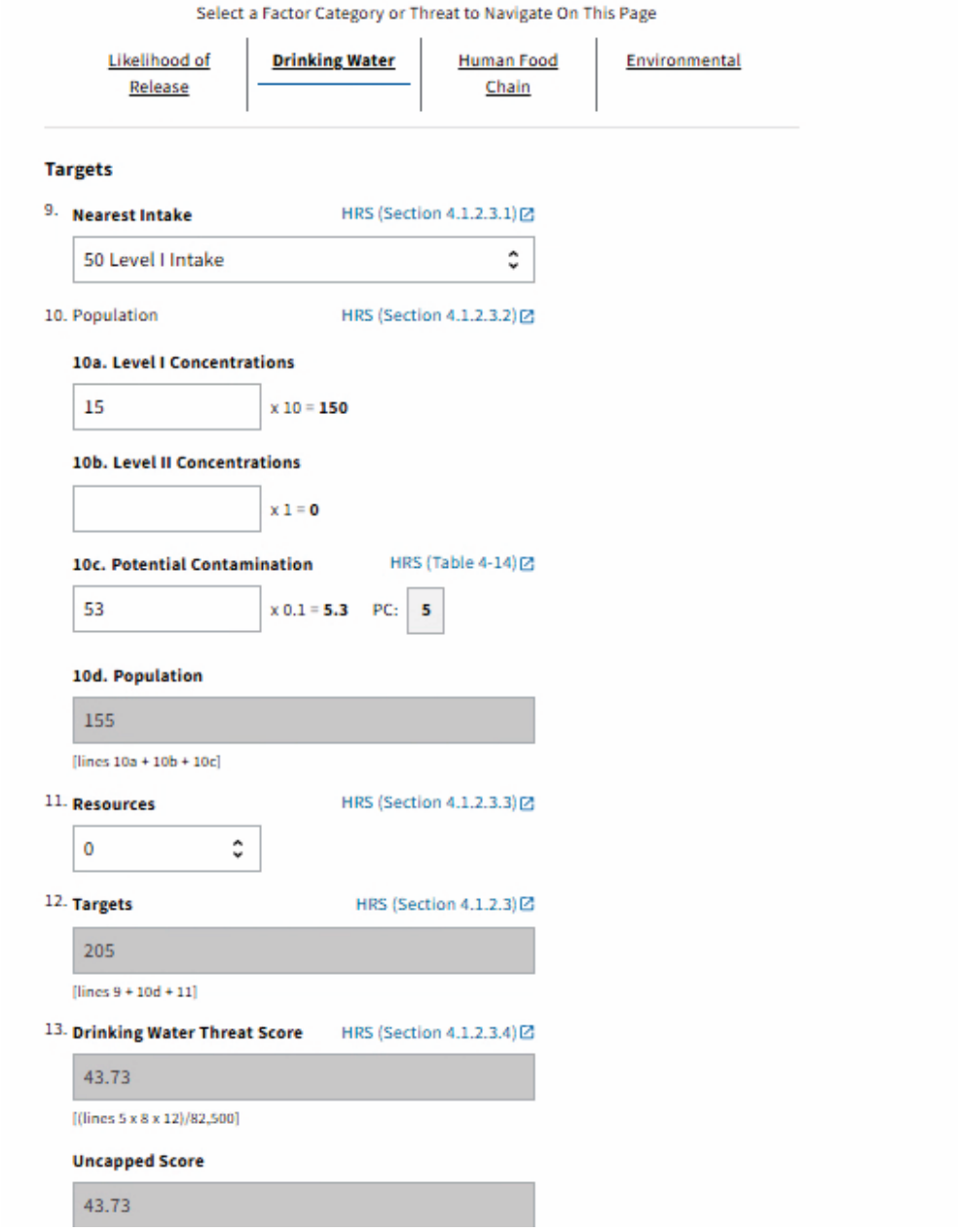


Figure 4-23: Surface Water Pathway Drinking Water Threat Targets

For the Human Food Chain Threat, choose a substance to assign persistence and bioaccumulation types to the hazardous substances, see Figure 4-24. First, select the substance by checking the box next to the substance and then use the drop-down menu to "Choose a Predominant Water Category (Persistence)" and then use the drop-down menu to "Choose a Water Body Type (Bioaccumulation)"; you will repeat these steps for each substance. The Choose a Substance summary table allows you to see the properties of the substances. The "Using Substance" box will list the substance(s) with the highest Toxicity/ Persistence/Bioaccumulation value that is being used for the Waste Characteristics calculation. The HWQ factor value is automatically populated by information entered on the sources page. Minimum HWQ

factor values are automatically assigned when actually contaminated targets or Food Chain Individual values of 45 or greater are entered.

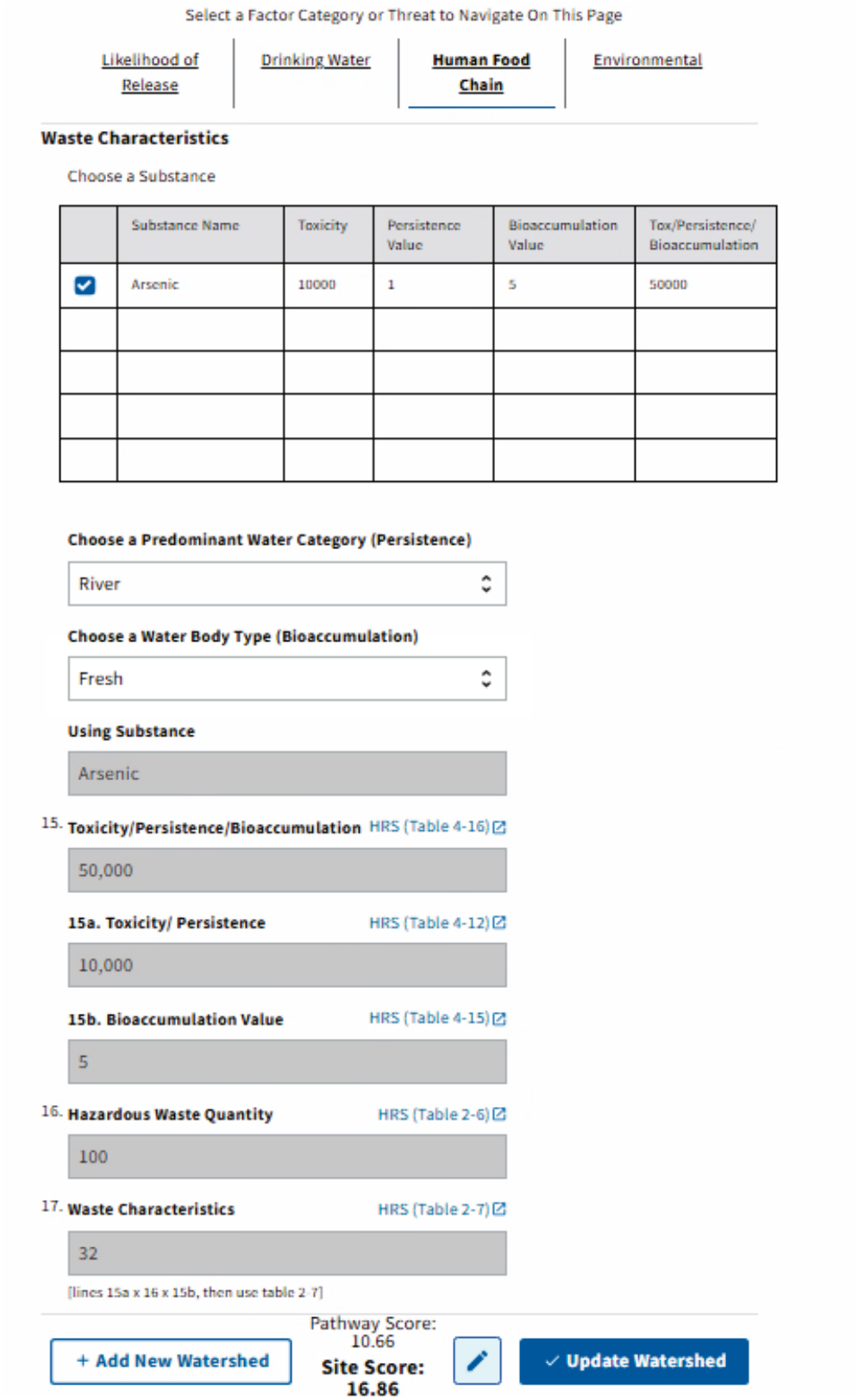


Figure 4-24: Surface Water Pathway Human Food Chain Threat Waste Characteristics

Next, you will use the drop-down boxes and fill-in boxes to enter information for the Human Food Chain Threat Targets. Note that when you enter the number of targets for Level I and Level II Concentrations and Potential Contamination, Quickscore will automatically apply the appropriate multiplier for the Population value. For Potential Contamination, use the HRS Surface Water Dilution Weights Table 4-13 to assign a dilution weight, enter that value for potential contamination, and the program will apply the appropriate multiplier. The Waste Characteristics value may also recalculate automatically depending on the information entered in the Targets Section. At the bottom of this page you will find the Human Food Chain Threat Score, the Uncapped Score, the Watershed Score (the sum of the Threats), and the Surface Water Overland Flow Component Score (the highest value of all the watersheds being evaluated or the Watershed you selected to be used in the site score), see Figure 4-25.

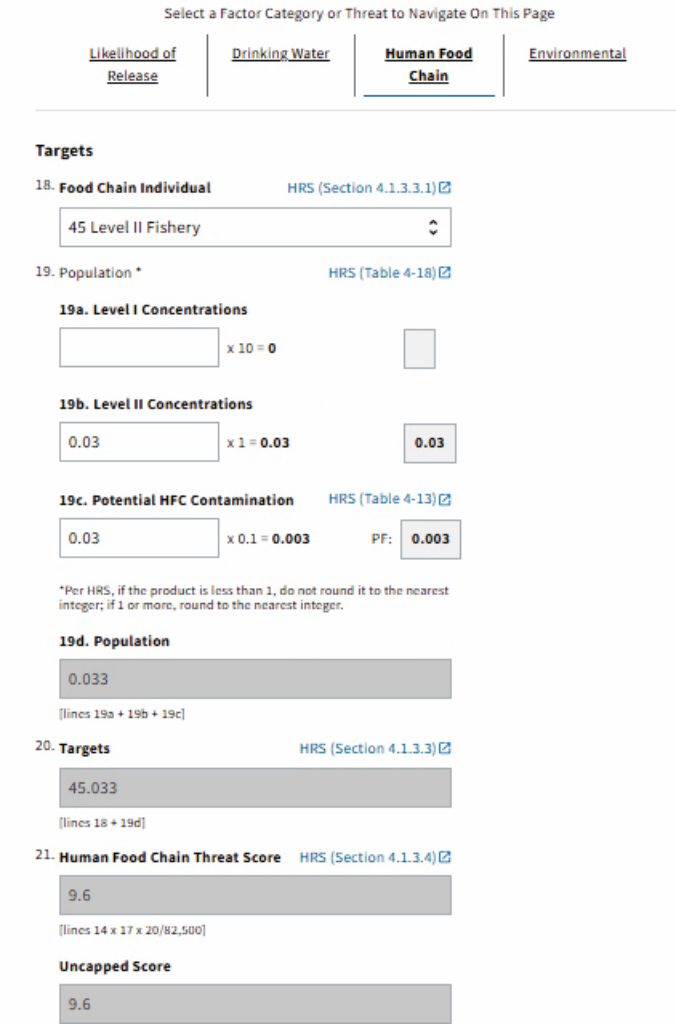


Figure 4-25: Surface Water Pathway Human Food Chain Threat Targets

For Environmental Threat, choose a substance to assign persistence and bioaccumulation types to the hazardous substances, see Figure 4-26. First, select the substance by checking the box next to the substance. Then, use the drop-down menus to "Choose a Water Body Type (Bioaccumulation)" and to "Choose a Predominant Water Category (Persistence)"; you will repeat these steps for each substance.

The Choose a Substance summary table allows you to see the properties of the substances. The "Using Substance" box will list the substance(s) with the highest EcoToxicity/Persistence/Bioaccumulation value that is being used for the Waste Characteristics calculation. The HWQ factor value is automatically populated by information entered on the sources page. Minimum HWQ factor values are automatically assigned when actually contaminated targets are entered.

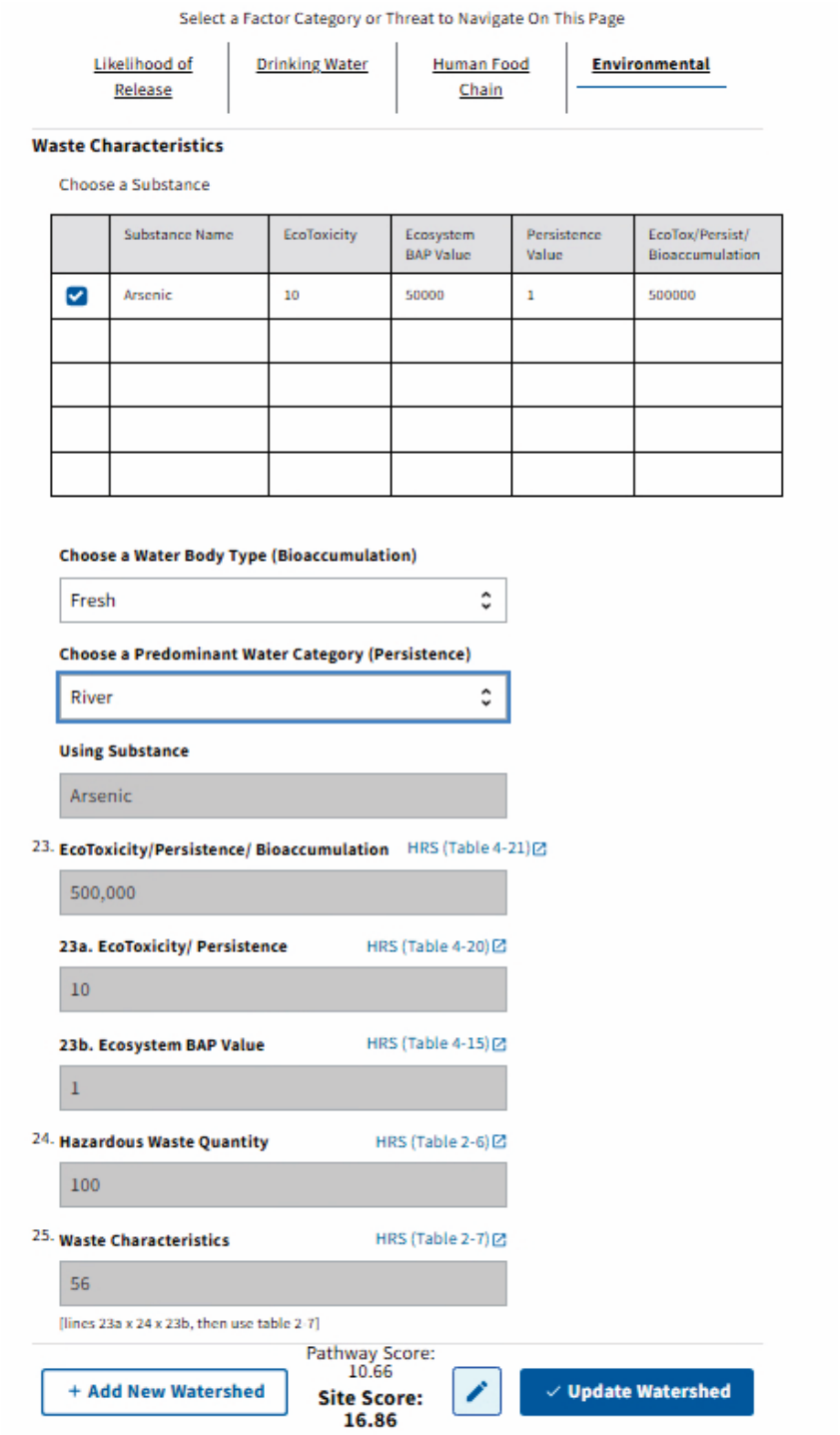


Figure 4-26: Surface Water Pathway Environmental Threat Waste

Next, you will use the drop-down boxes and fill-in boxes to enter information for the Environmental Threat Target information. Note that when you enter the number of targets for Level I and Level II Concentrations and Potential Contamination, Quickscore will automatically apply the appropriate multiplier for the Population value. For Potential Contamination, use the HRS Surface Water Dilution Weights Table 4-13 to assign a dilution weight, enter that value for potential contamination, and the program will apply the appropriate multiplier. The Waste Characteristics value may also recalculate automatically depending on the information entered in the Targets Section. At the bottom of this page you will find the Environmental Threat Score, the Uncapped Score, the Watershed Score (the sum of the Threats), and the Surface Water Overland Flow Component Score (the highest value of all the watersheds being evaluated or the Watershed you selected to be used in the site score), see Figure 4-27.

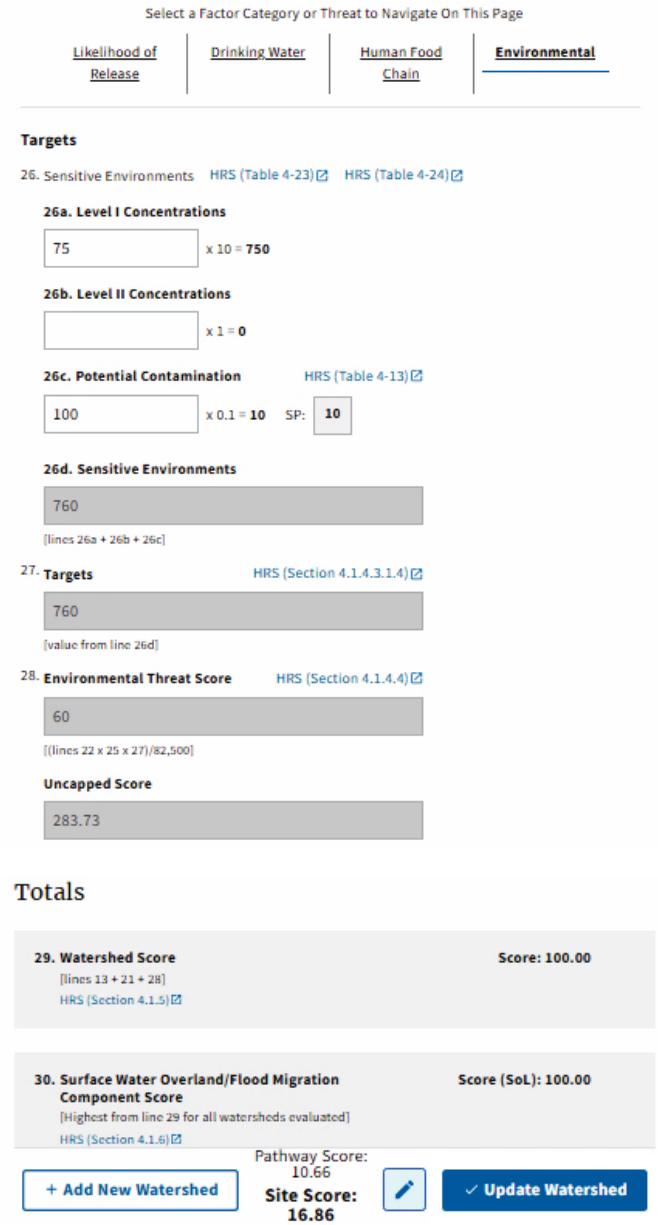


Figure 4-27: Surface Water Pathway Environmental Threat Targets

4.4.3.2 How do I enter the Ground Water to Surface Water component?

Press the "Ground Water to Surface Water" button near the top of the page, see Figure 4-20. Use the drop-down boxes to enter information about the Observed Release or the Potential to Release by Ground Water to Surface for the Watershed. The program automatically calculates the Likelihood of Release. Then, for each threat, you will enter specific information about Waste Characteristics and Targets.

Remember to save as you go by pressing the "Save Watershed" or "Update Watershed" button at the bottom of the page.

See Section 4.4.3.1 How do I enter the Overland Flow component? for details on entering waste characteristics and targets for each threat.

4.4.3.3 How do I add or delete Watersheds?

To add a new Watershed, press the "Add New Watershed" button at the bottom of the page and repeat the above steps. To delete a watershed, make sure you have the watershed that you wish to delete selected and use the ellipsis "…" menu to select "Delete Watershed," see Figure 4-28. A warning box will appear asking if you are sure you want to continue and the name of Watershed you are about to delete, press "Delete Watershed" to continue. The watershed will be deleted from both the Overland Flow and Ground Water to Surface Water components, see Figure 4-29.

Note: The delete function is final and cannot be undone.

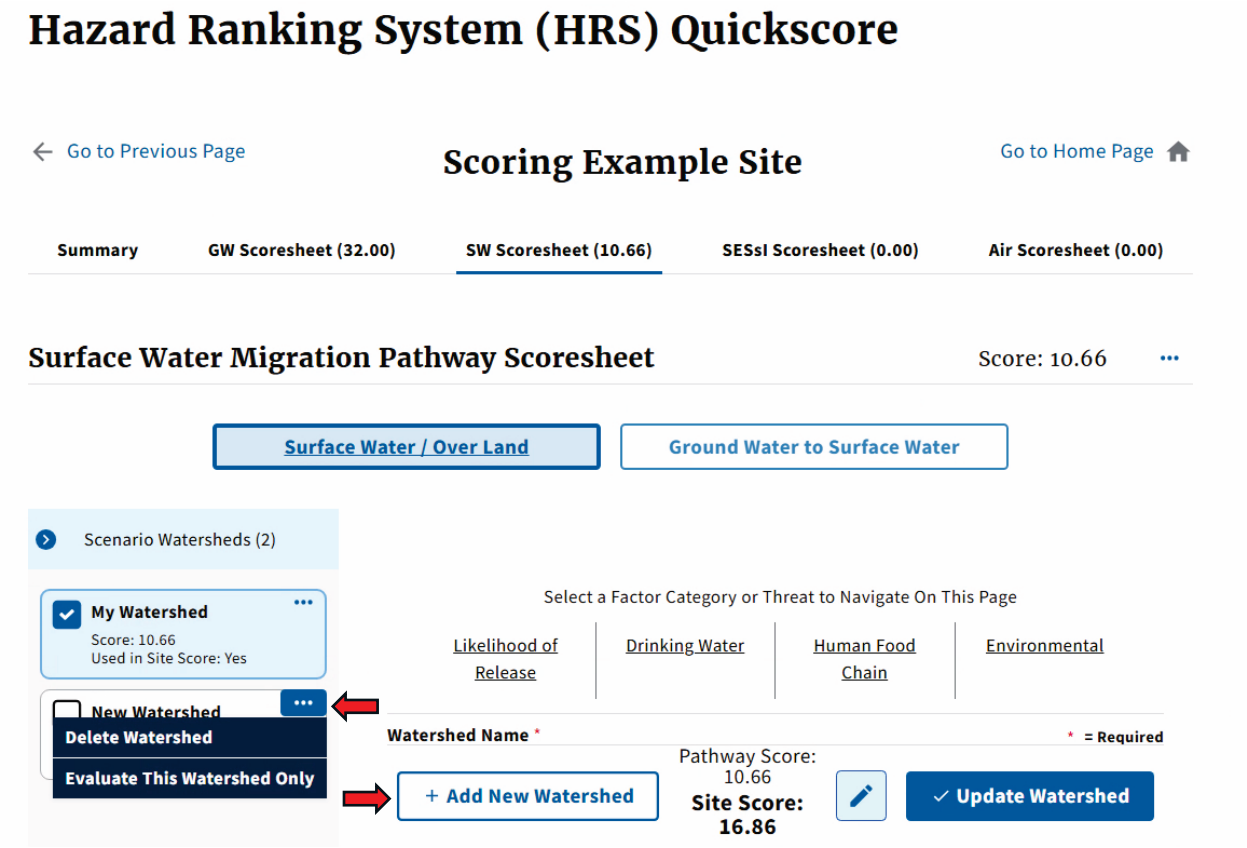


Figure 4-28: Surface Water Pathway Adding or Deleting a Watershed

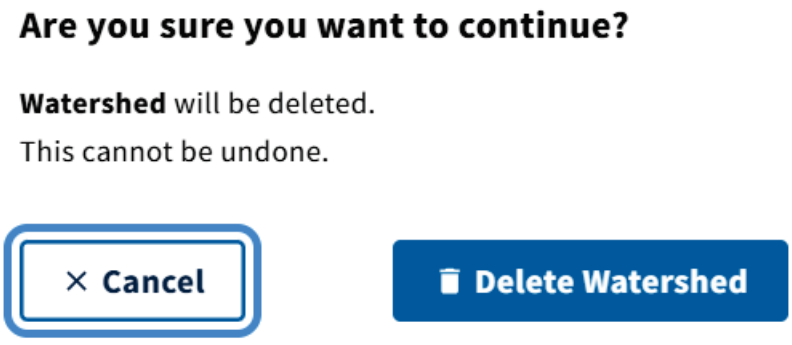


Figure 4-29: Watershed Deletion Warning

4.4.4 How do I use the Soil Exposure & Subsurface Intrusion (SESsI) Scoresheet?

Remember to save as you go by pressing the "Save" or "Update" buttons at the bottom of the pages.

The "SESsI Scoresheet" is divided into two components, the Soil Exposure component and the Subsurface Intrusion component. The "Soil Exposure & Subsurface Intrusion Pathway Scoresheet" has two buttons to allow you to access either the Soil Exposure Component or the Subsurface Intrusion Component. Press the "Score" button under the component you wish to evaluate, see Figure 4-30.

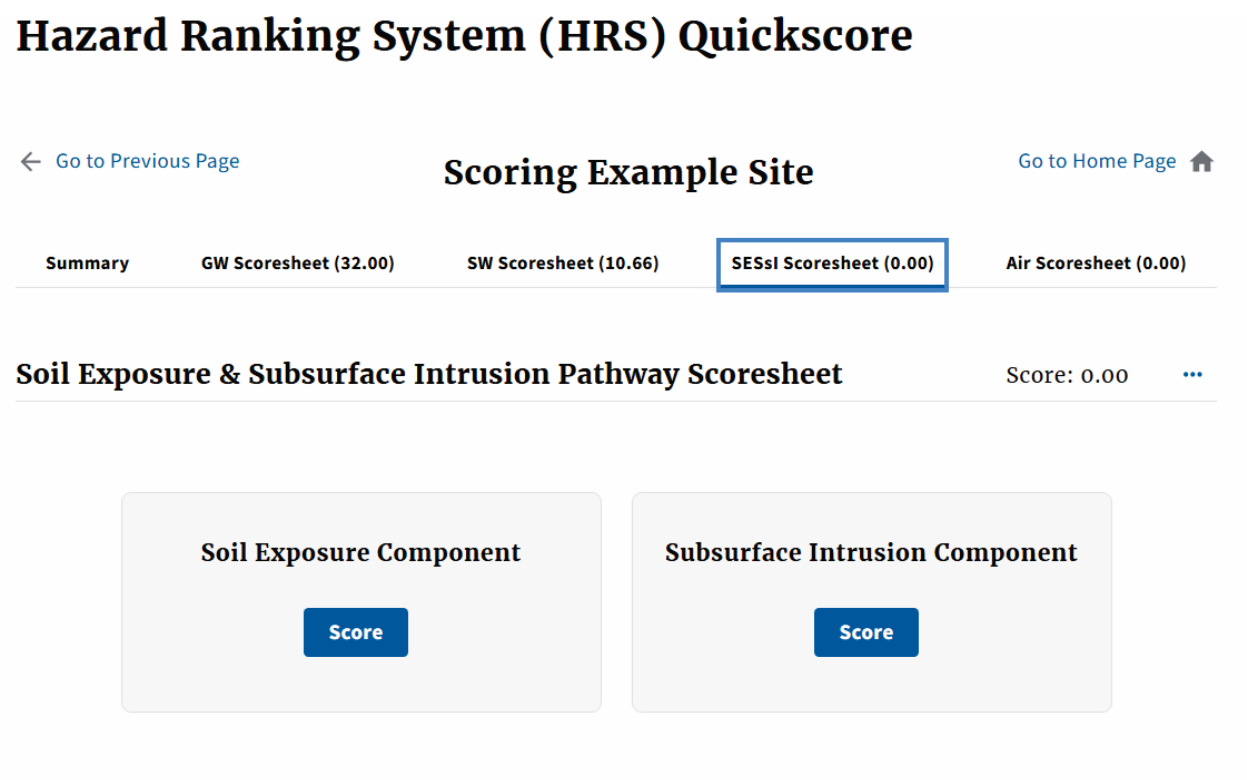


Figure 4-30: Soil Exposure and Subsurface Intrusion Pathway Scoresheet

4.4.4.1 How do I enter Areas of Observed Contamination for the Soil Exposure Component?

Remember to save as you go by pressing the "Save AOC" or "Update AOC" button at the bottom of the page.

From the "Soil Exposure & Subsurface Intrusion Pathway Scoresheet" landing page, press the "Score" button under Soil Exposure Component. From this page you can access the Area of Observed Contamination (AOC) and Soil Exposure sections of Quickscore. Make sure you are on the "AOC (Area of Observed Contamination) Information" page. The area you are working in will be underlined and shaded a light blue, see Figure 4-31. This page functions similarly to the "Basic Source

Information" page from the migration pathway pages (see Section 4.2 How do I enter source information?). Any sources entered on the "Basic Source Information" page that have been checked as "I am also scoring this source for the Soil Exposure (SE) Component" will already be listed as an AOC(s). The AOC letter, AOC Name, and AOC type will automatically be populated by Quickscore using the information from the "Basic Source Information" page. This information can be updated on the AOC (Area of Observed Contamination) Information page as appropriate. Changing the AOC Name or AOC Type will not change the Source Information. Hazardous Waste Quantity and Hazardous Substances information must be entered separately because they may differ from the information in the corresponding Source.

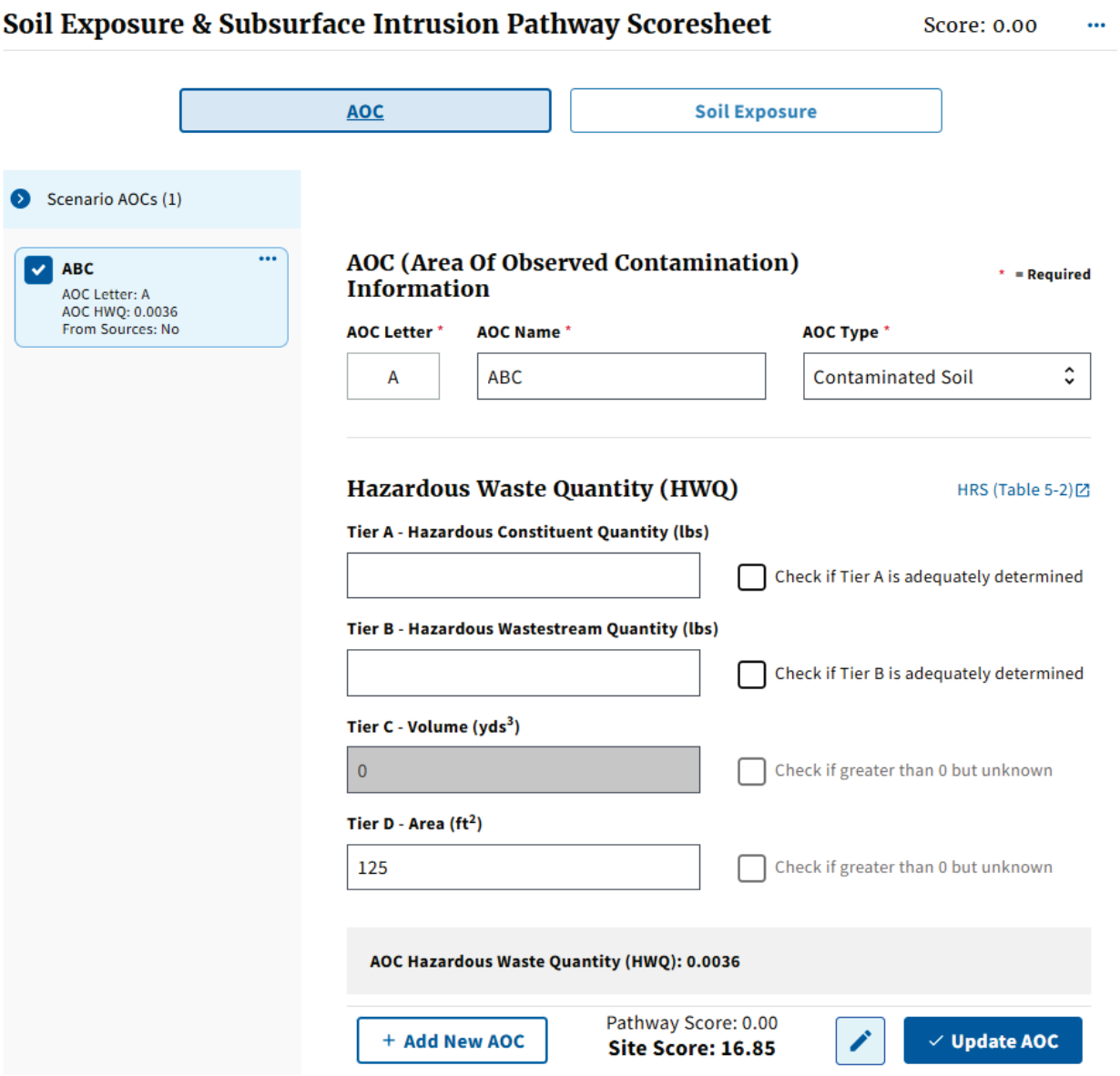


Figure 4-31: Soil Exposure AOC

Enter the Hazardous Waste Quantity (HWQ), for the appropriate tier. Quickscore will use the appropriate divisor from HRS Table 2-5 to calculate the HWQ and the Source Hazardous Waste Quantity (HWQ) value will show at the bottom of the HWQ section. Next, Associate Substances is used to pick the hazardous substances associated with the source or the site, see Figure 4-32. See Section 4.2.1: How do I associate substances? for more information.

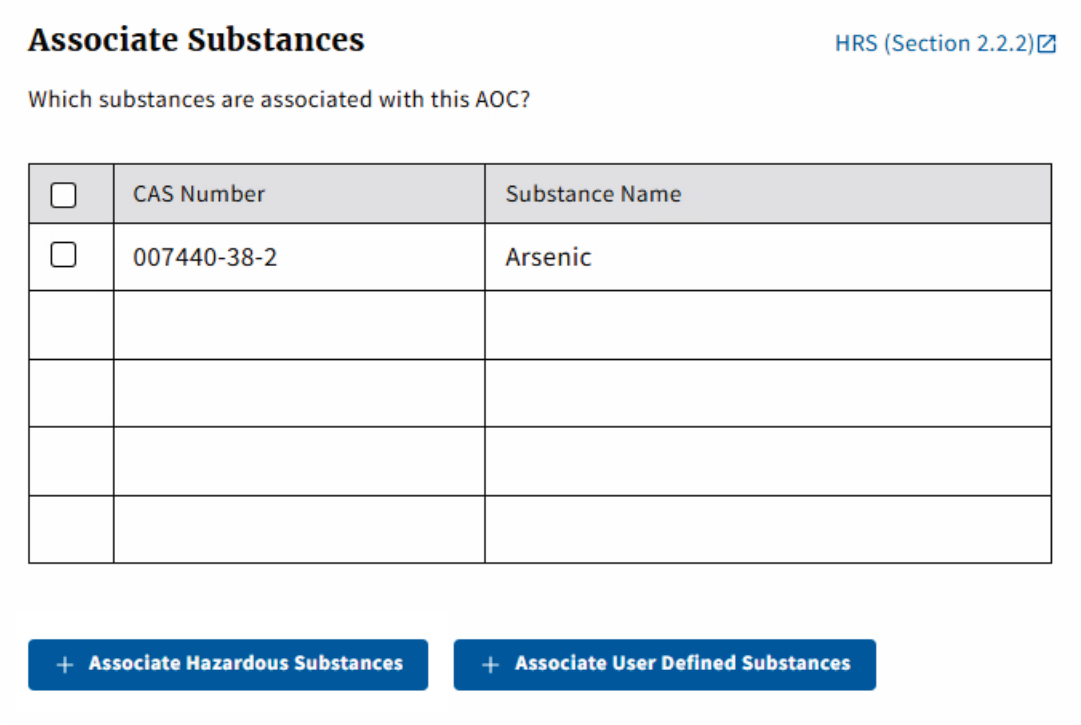


Figure 4-32: Associating Hazardous Substances to an AOC

If your AOC was not included as a source, click the "Add New AOC" at the bottom left of the AOC Information page, see Figure 4-31. Quickscore will automatically populate the AOC Letter field. Enter the AOC Name and select the AOC Type from the drop-down list provided.

Enter the Hazardous Waste Quantity (HWQ), for the appropriate tier. Quickscore will use the appropriate divisor from HRS Table 2-5 to calculate the HWQ and the Source Hazardous Waste Quantity (HWQ) value will show at the bottom of the HWQ section. Next, Associate Substances is used to pick the hazardous substances associated with the source or the site, see Figure 4-32. See Section 4.2.1: How do I associate substances? for more information.

4.4.4.2 How do I delete an Area of Observed Contamination?

To delete an AOC, use the ellipsis menu "…" next to the AOC you wish to delete under the Scenario AOCs on the left side of the page, see Figure 4-33. When you select "Delete AOC," you will be asked "Are you sure you want to continue?." Select "Delete AOC" to delete the AOC, or "Cancel" if you do not want to delete the AOC, see Figure 4-34.

Note: The delete function is final and cannot be undone.

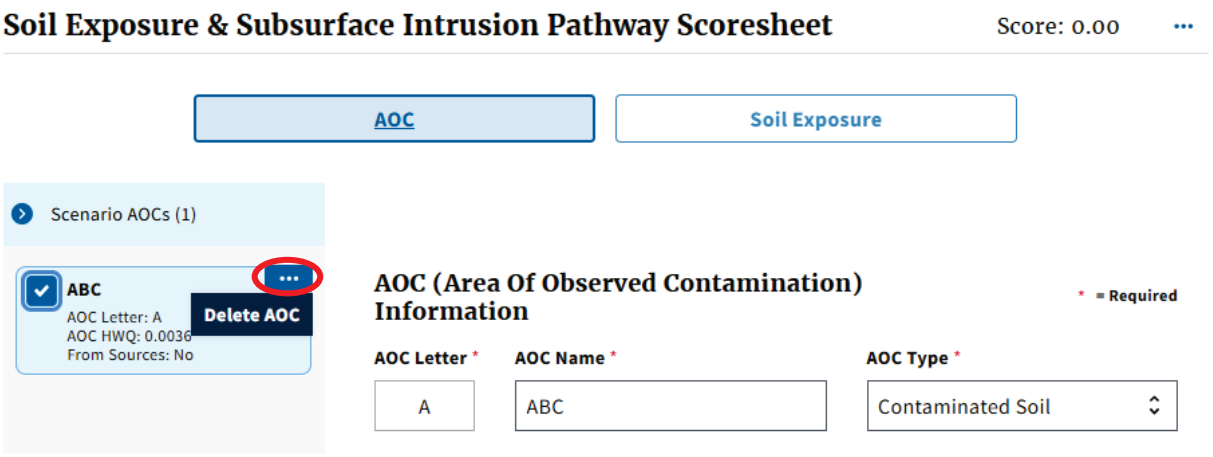


Figure 4-33: Deleting an AOC

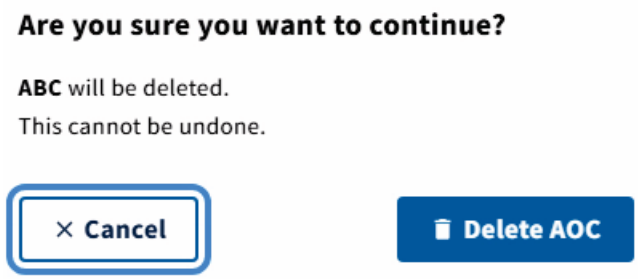


Figure 4-34: Deleting an AOC Warning

4.4.4.3 How do I calculate a Soil Exposure Component score?

From the AOC Information page, press the "Soil Exposure" button to open the Soil Exposure Scoresheet. Make sure you are on the Soil Exposure page, the area you are working in will be underlined and shaded a light blue, see Figure 4-35. For the Resident Population Threat, use the drop-down box provided to enter the Likelihood of Exposure Factor Category Value.

Remember to save as you go by pressing the "Save SE Scoresheet" button at the bottom of the page.

The Waste Characteristics Factor Category Value is calculated by Quickscore based on the information entered for AOC(s). The substance(s) used for assigning the Toxicity factor value will be displayed under the "Using Substance" section of the Resident Population Threat scoresheet. The HWQ factor value is automatically populated by information entered on the AOC pages.

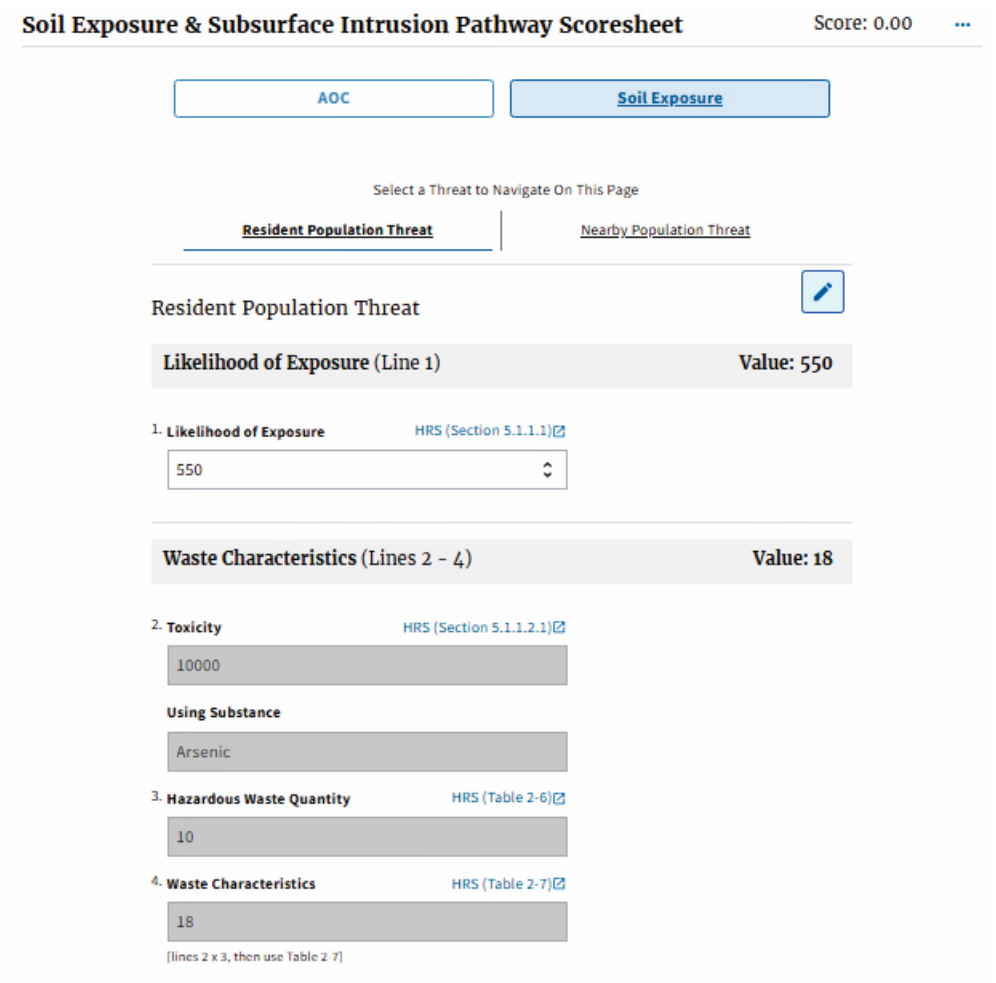


Figure 4-35: Soil Exposure Scoresheet Resident Population Threat Likelihood of Exposure and Waste Characteristics

Next, use the drop-down boxes and fill-in boxes to enter information for targets. Quickscore will apply the appropriate weighting factor based on the Level of Concentration for the Resident Population factor value, see Figure 4-36.

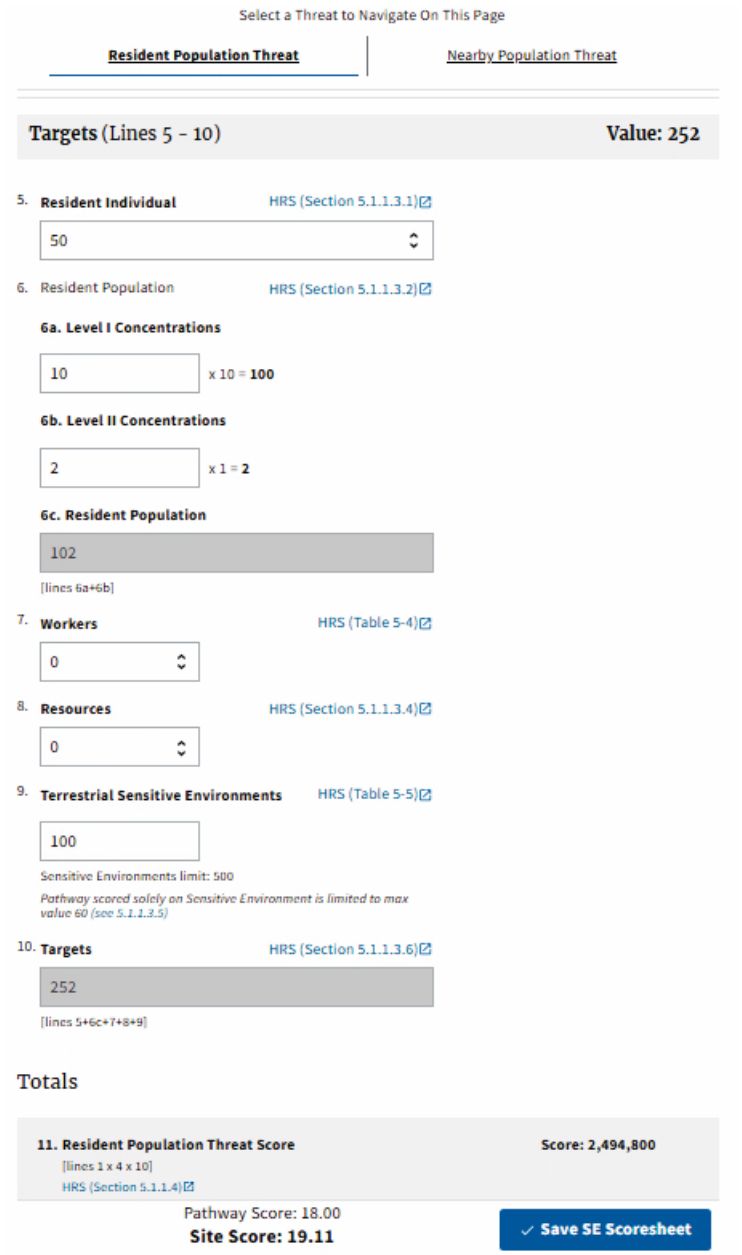


Figure 4-36: Soil Exposure Residential Targets

For the Nearby Population Threat, use the drop-down boxes provided to enter the Likelihood of Exposure Factor Category Value. The Waste Characteristics Factor Category Value is calculated by Quickscore based on the information entered for the AOC(s). The substance used for assigning the Toxicity factor value will be displayed under the "Using Substance" section of the Nearby Population Threat scoresheet, see Figure 4-37.

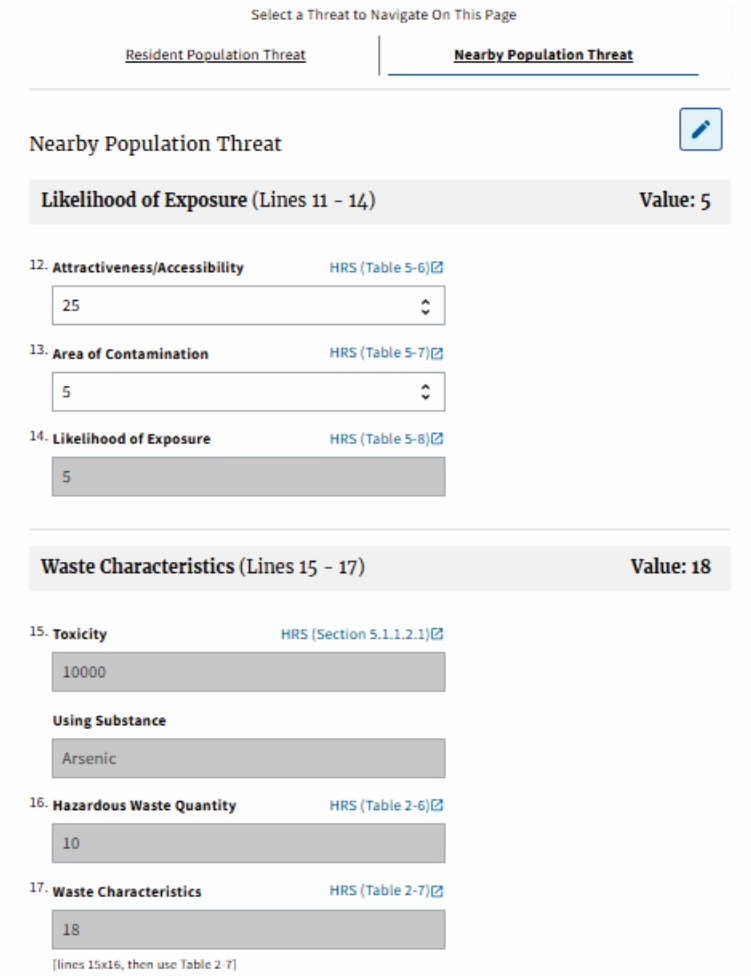


Figure 4-37: Soil Exposure Nearby Population Threat Likelihood of Exposure

Next, use the drop-down box and fill-in box to enter information for targets. For Population within 1 Mile factor value, use the HRS Distance-Weighted Population Table 5-10 to determine the distance-weighted population, enter that value for potential population, and the program will apply the appropriate multiplier, see Figure 4-38. Be sure to save as you go by pressing the "Save SE Scoresheet" button at the bottom of the page. After pressing save, your Residential Population Threat Score, Nearby Population Threat Score and Soil Exposure Component Score will be updated at the bottom of the scoresheet.

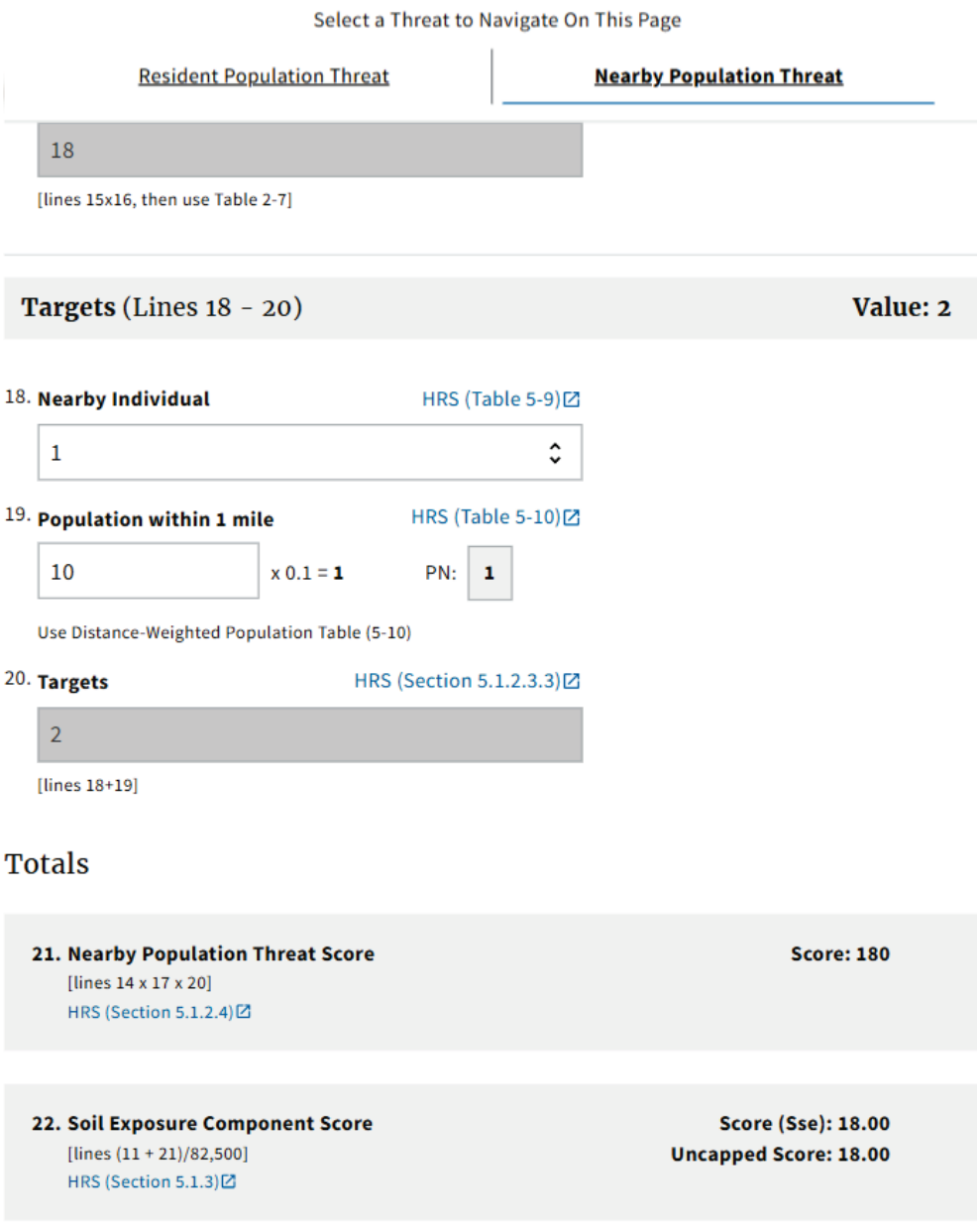


Figure 4-38: Soil Exposure Nearby Population Threat Targets

4.4.4.4 How do I enter Areas of Observed Exposure for the Subsurface Intrusion Component?

From the "Soil Exposure & Subsurface Intrusion Pathway Scoresheet" landing page, press the "Score" button under Subsurface Intrusion Component. From this page you can access the Area of Observed Exposure (AOE), Area of Subsurface Contamination (ASC), and Subsurface Intrusion

Remember to save as you go by pressing the "Save AOE" or "Update AOE" button at the bottom of the page.

sections of Quickscore, see Figure 4-39. Make sure you are on the "AOE (Area of Observed Exposure) Information" page. The area you are working in will be underlined and shaded a light blue, see Figure 4-39. This page functions similarly to the "Basic Source Information" page from the migration pathway pages (see Section 4.2 How do I enter source information?). Enter an AOE Name and the AOE # will automatically populate. Enter the total hazardous waste quantity value for this AOE per section 5.2.1.2.2 of the HRS. Next, Associate Substances is used to pick the hazardous substances associated with the source or the site, see Figure 4-39. See Section 4.2.1: How do I associate substances? for more information.

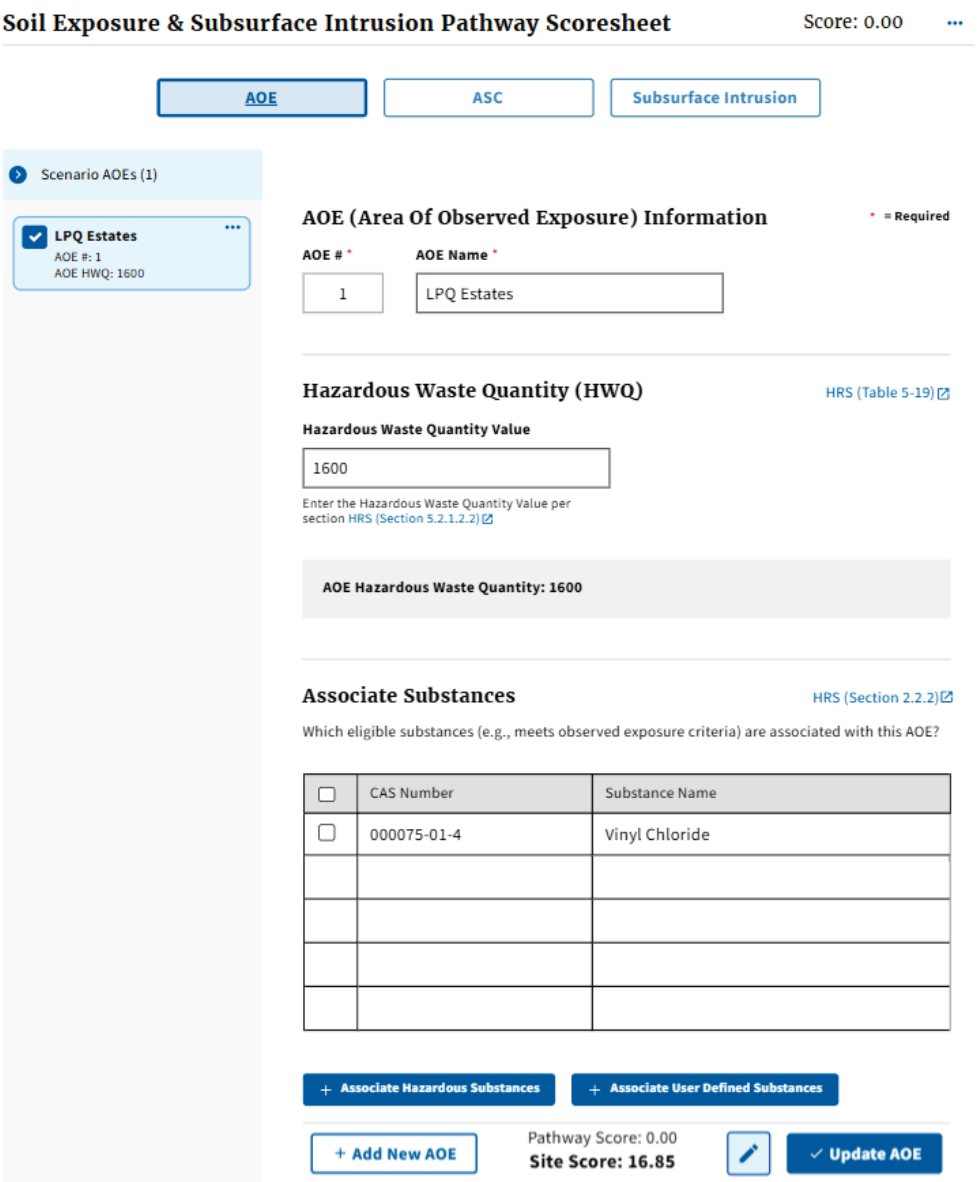


Figure 4-39: Subsurface Intrusion AOE

To add a new AOE, click the "Add New AOE" button at the bottom right of the AOE Information page, see Figure 4-39. Follow the steps outlined above.

4.4.4.5 How do I delete an Area of Observed Exposure?

Note: The delete function is final and cannot be undone.

To delete an AOE, use the ellipsis menu "…" next to the AOE you wish to delete under the Scenario AOEs on the left side of the page, see Figure 4-40. When you select "Delete AOE," you will be asked "Are you sure you want to continue?." Select "Delete AOE" to delete the AOE, or "Cancel" if you do not want to delete the AOE. Be warned that when you delete an AOE it cannot be undone, see Figure 4-41.

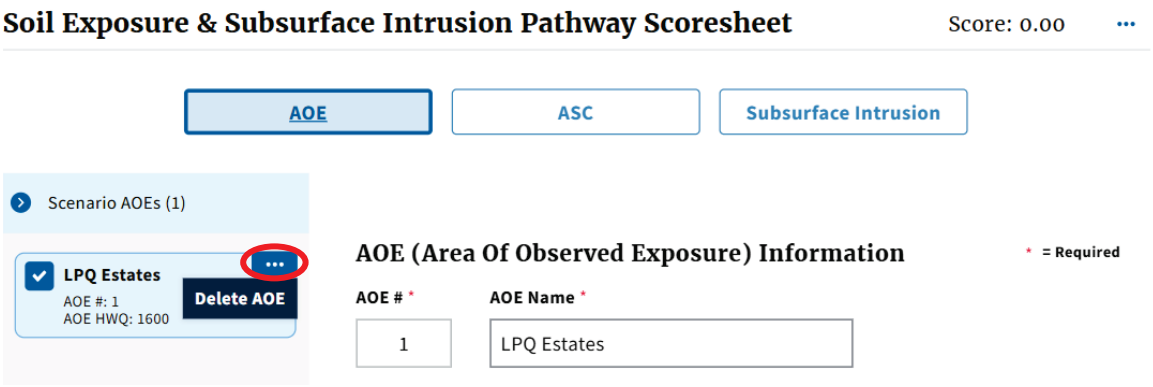


Figure 4-40: Deleting an AOE

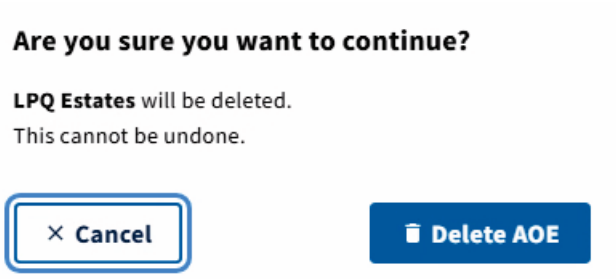


Figure 4-41: Confirm or Cancel Delete AOE

4.4.4.6 How do I enter an Area of Subsurface Contamination for the Subsurface Intrusion Component?

Remember to save as you go by pressing the "Save ACS" or "Update ASC" button at the bottom of the page.

Entering an Area of Subsurface Contamination (ASC) is similar to entering an AOE and a Source. From the "Soil Exposure & Subsurface Intrusion Pathway Scoresheet" landing page, press the "Score" button under Subsurface Intrusion Component, from this page you can access the AOE, ASC, and Subsurface Intrusion sections of Quickscore, see Figure 4-42. Make sure you are on the "ASC (Area of Subsurface Contamination) Information" page. The area you are working in will be underlined and shaded a light blue, see Figure 4-42. This page functions similarly to the "Source Information" page from the migration pathway pages (see Section 4.2

How do I enter source information). Enter an ASC Name and the ASC # will automatically populate. Enter the total hazardous waste quantity value for this ASC per section 5.2.1.2.2 of the HRS.

Next, Associate Substances is used to pick the hazardous substances associated with the source or the site. See Section 4.2.1: How do I associate substances? for more information.

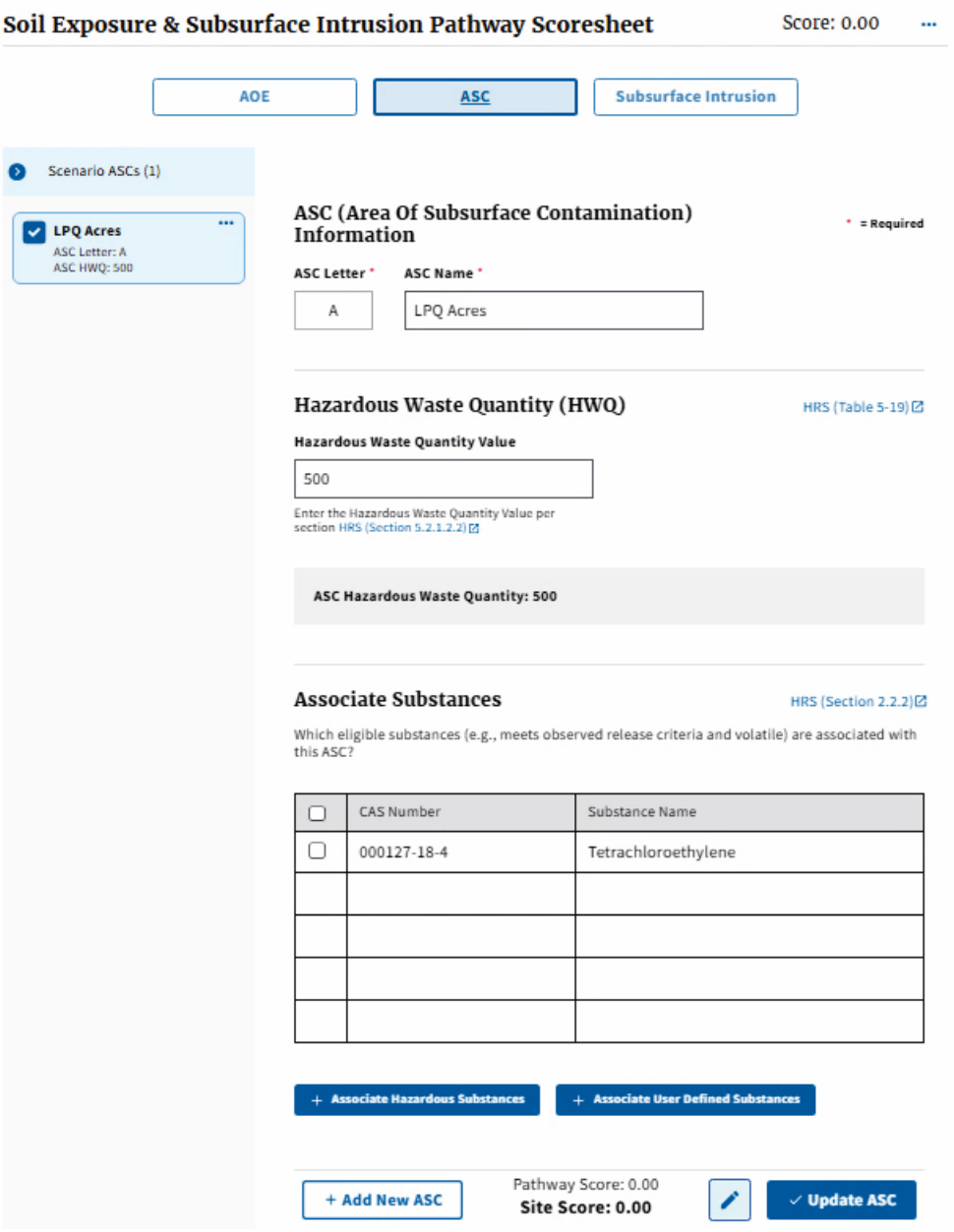


Figure 4-42: Subsurface Intrusion ASC

To add a new ASC, click the "Add New ASC" button at the bottom right of the ASC Information page. Then follow the steps outlined above. See Figure 4-39.

4.4.4.7 How do I delete an Area of Subsurface Contamination

To delete an ASC, use the ellipsis menu "…" next to the ASC you wish to delete under the Scenario ASCs on the left side of the page, see Figure 4-43. When you select "Delete ASC," you will be asked "Are you sure you want to continue?." Select "Delete ASC" to delete the ASC, or "Cancel" if you do not want to delete the ASC. Be warned that when you delete an ASC it cannot be undone, see Figure 4-44.

Note: The delete function is final and cannot be undone.

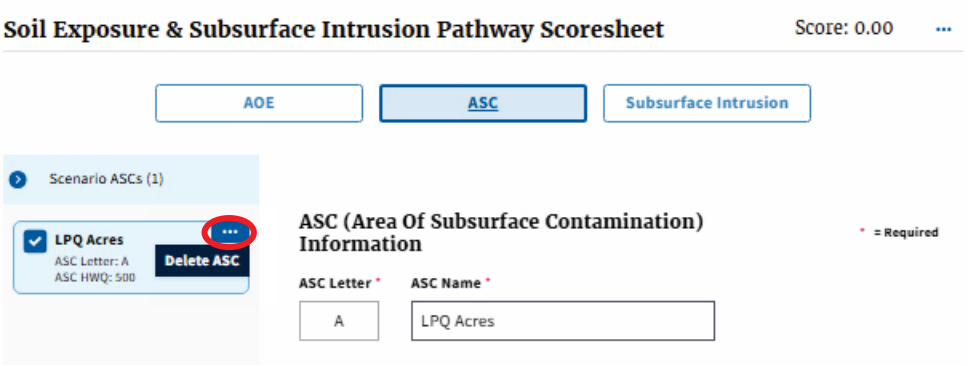


Figure 4-43: Deleting an ASC

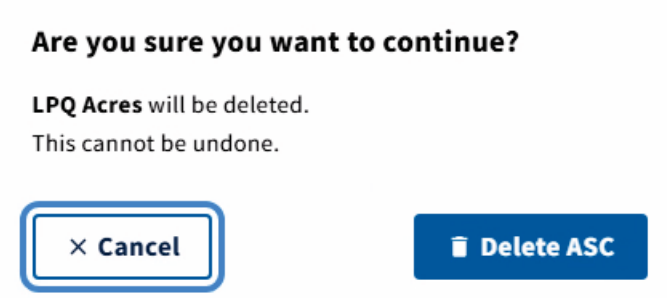


Figure 4-44: Confirm or Cancel Delete ASC

4.4.4.8 How do I calculate a Subsurface Intrusion Component score?

From the AOE or ASC Information page, press the "Subsurface Intrusion" button to open the Subsurface Intrusion Scoresheet. Make sure you are on the "Subsurface Intrusion" page. The area you are working in will be underlined and shaded a light blue, see Figure 4-4.5 Use the drop-down box provided to enter the Likelihood of Exposure Factor Category Value.

Remember to save as you go by pressing the "Save SSI Scoresheet" button at the bottom of the page.

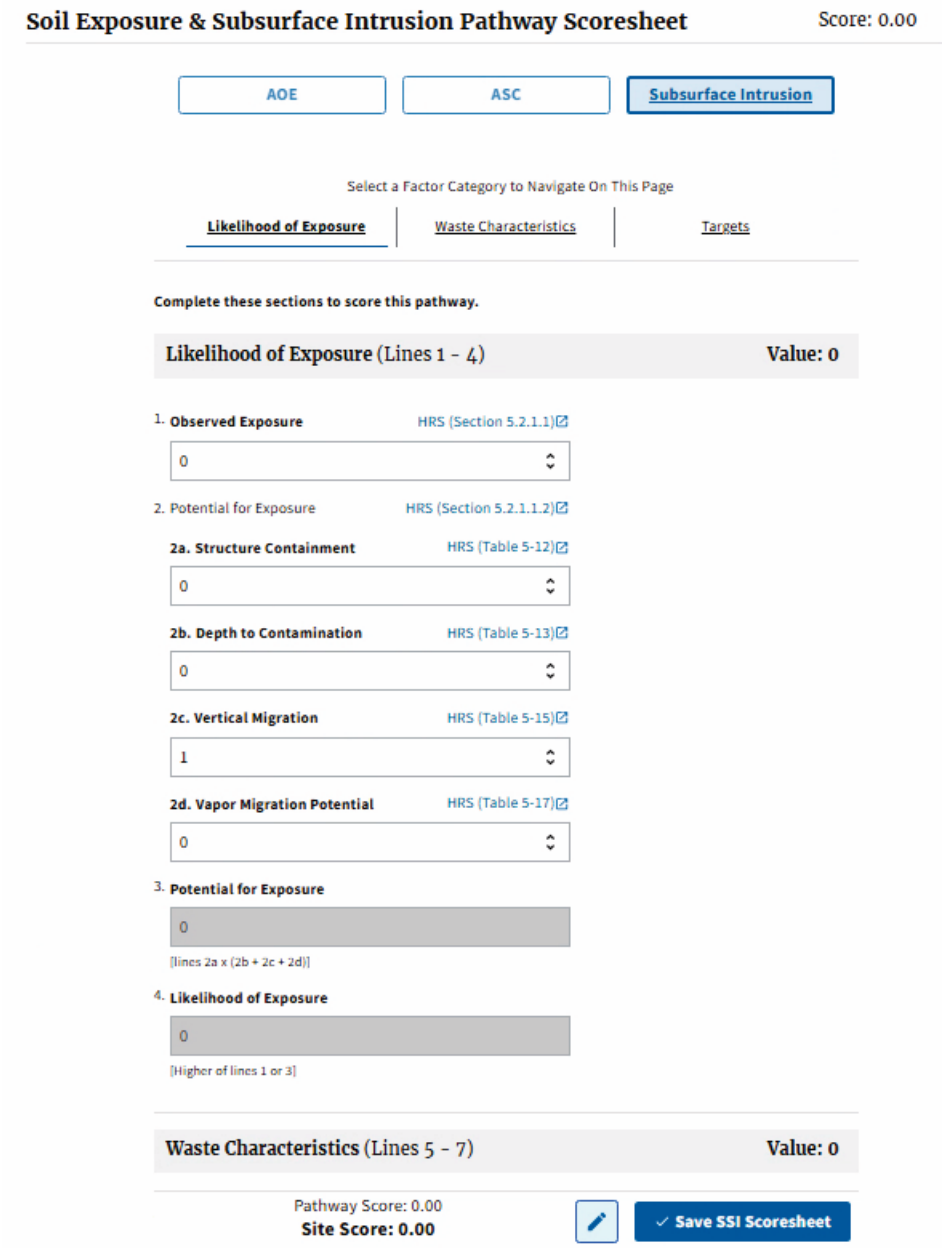


Figure 4-45: Subsurface Intrusion Scoresheet Likelihood of Exposure

Next, enter the Waste Characteristics information to assign degradation types to the hazardous substances, see Figure 4-46. First, select the substance by checking the box next to the substance and then use the dropdown menu "Choose a Degradation Type" to assign the degradation type to the hazardous substance; you will repeat these steps for each substance. The Choose a Substance summary table allows you to see the properties of the substances. The "Using Substance" box will list the substance(s) with the highest Toxicity/Degradation value that is being used for the Waste Characteristics calculation. The HWQ factor value is automatically populated by information entered on the sources page. Minimum HWQ factor values are automatically assigned when actually contaminated targets or exposed individual values of 45 or greater are entered.

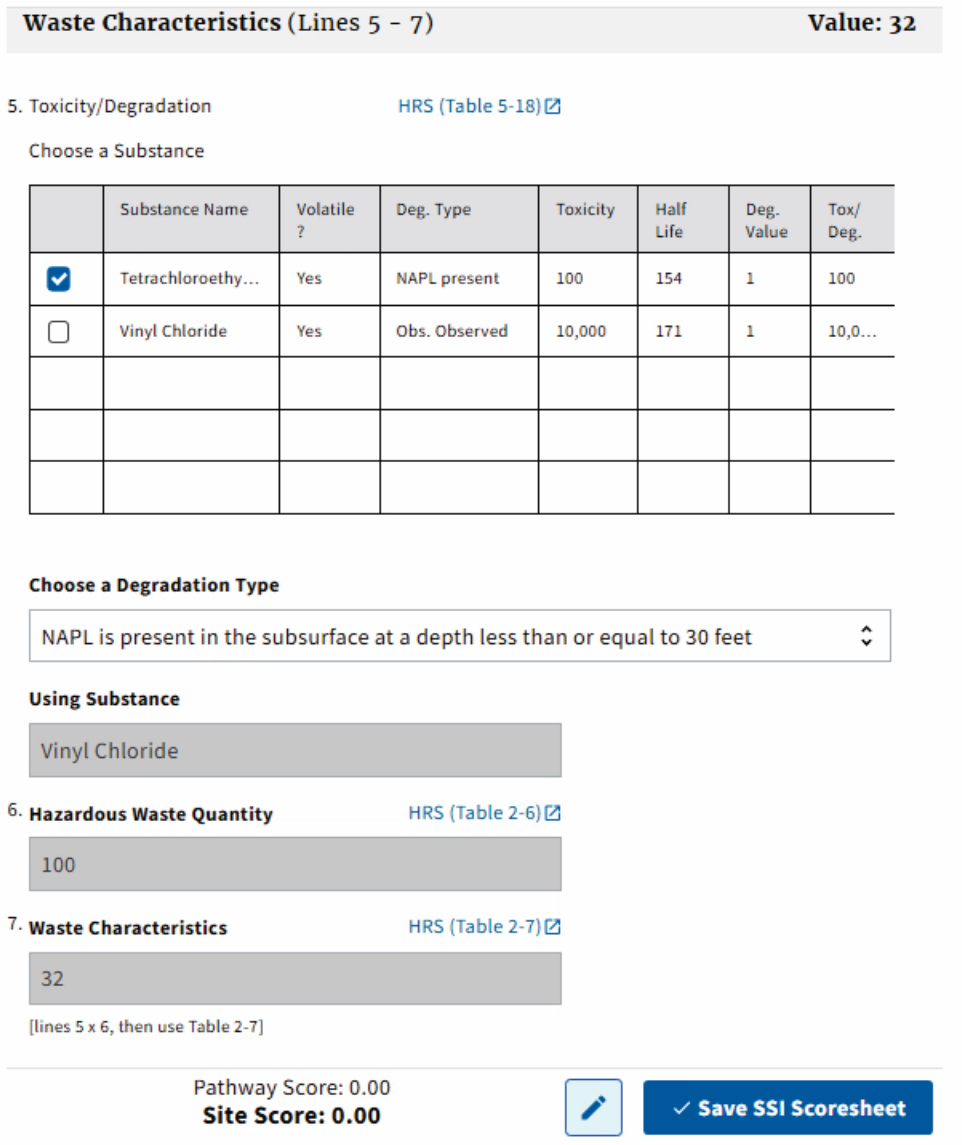


Figure 4-46: Subsurface Intrusion Scoresheet Waste Characteristics

Next, use the drop-down boxes and fill-in boxes to enter information for targets. Quickscore will apply the appropriate weighting factor based on the Level of Concentration for the Population factor value, see Figure 4-47.

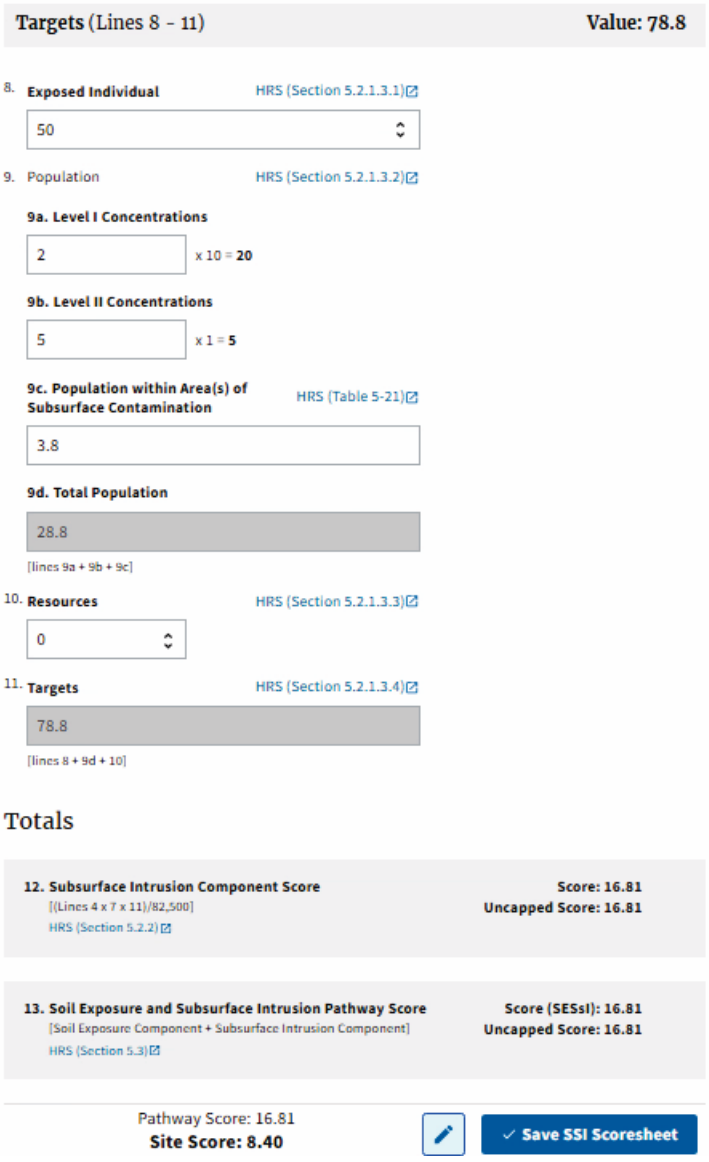


Figure 4-57: Subsurface Intrusion Targets

4.4.5 How do I use the Air Scoresheet?

The "Air Scoresheet" has three sections:

- Likelihood of Release where information about the Observed Release or Potential to Release is entered.
- Waste Characteristics where information related to toxicity and mobility, and the Hazardous Waste Quantity Factor Value is calculated.
- Targets where population information is entered

You can use the links under "Select a Factor Category to Navigate On This Page" to skip to these specific data entry sections.

First, start by entering the Likelihood of Release data, by using the drop-down box to enter the Observed Release factor value or the fill-in boxes to enter the Potential to Release factor value. Quickscore will automatically calculate the Likelihood of Release Factor Category Value, see Figure 4-48.

Remember to save as you go by pressing the "Save Air Scoresheet" button at the bottom of the page.

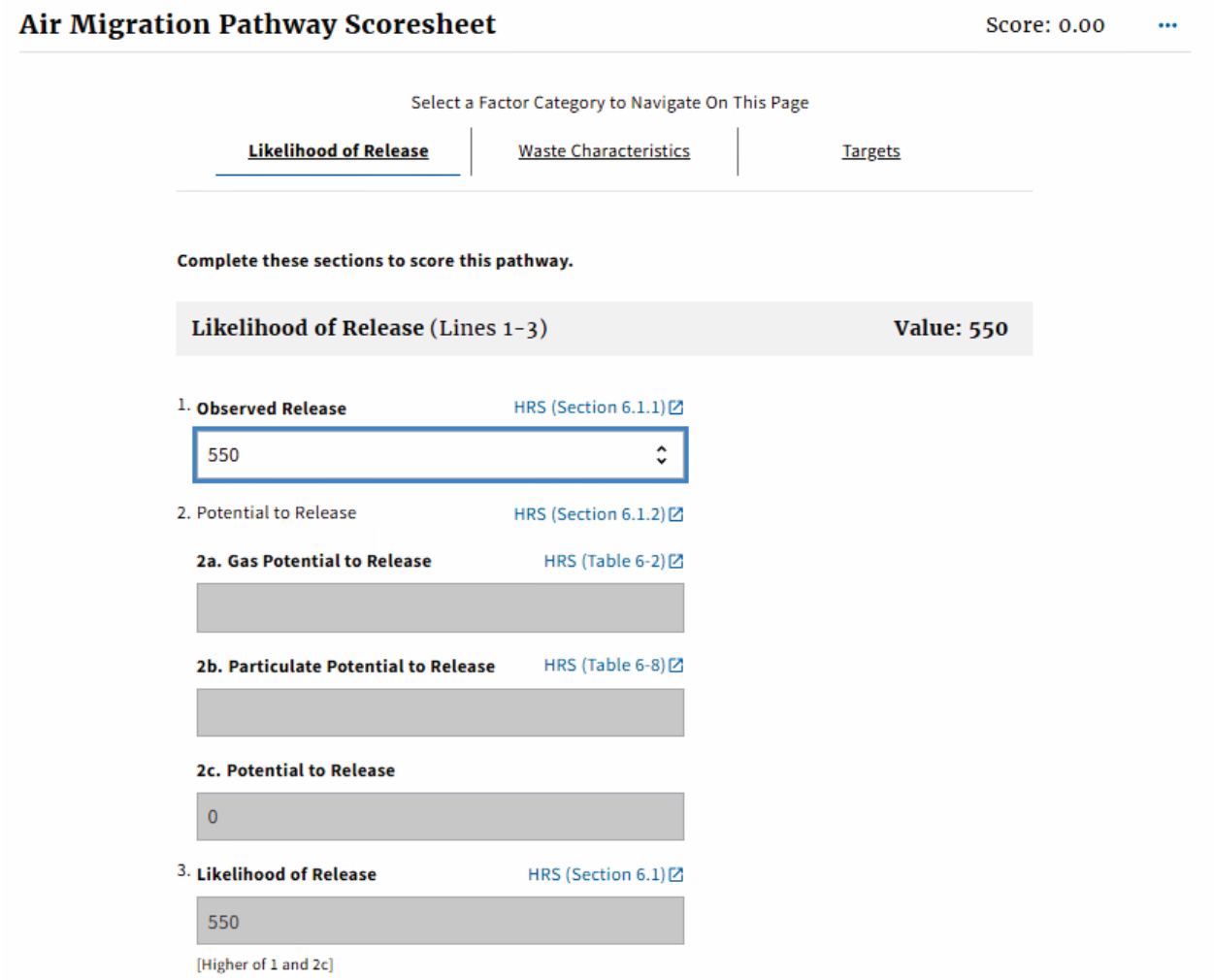


Figure 4-48: Air Pathway Scoresheet Likelihood of Release

Waste Characteristics data are based on the information entered for Sources. Select each substance to assign a Mobility Type for each substance available to the Air Migration Pathway. Highlight the substance by clicking the box next to the substance in the Choose a Substance box. Use the dropdown menu under the "Choose Mobility Type" section to assign the appropriate mobility value, see Figure 4-49.

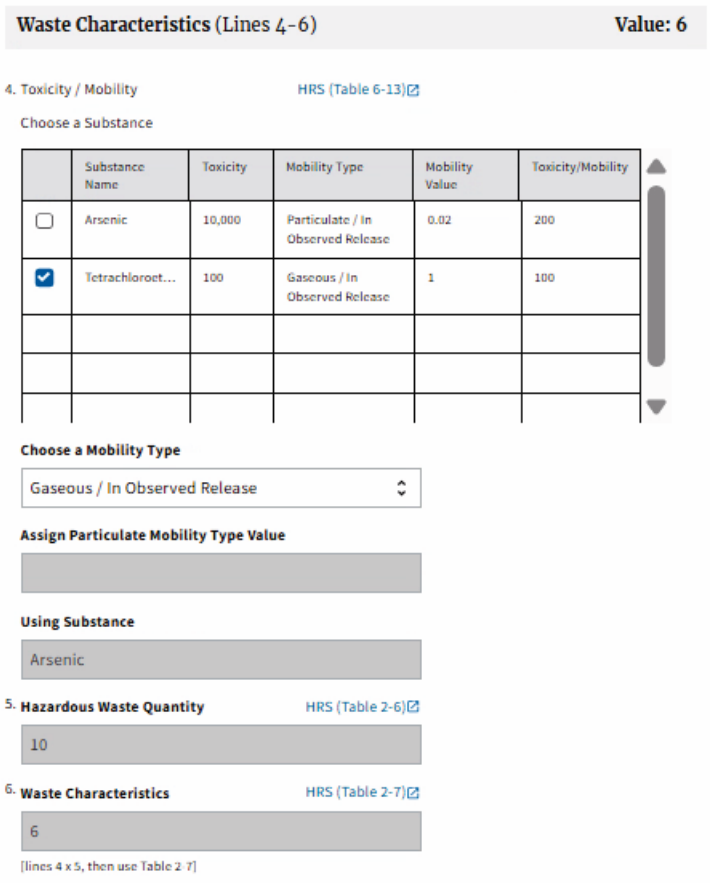


Figure 4-49: Air Pathway Waste Characteristics

The substance(s) used for assigning the Toxicity/Mobility factor value will be displayed in the "Using Substance" field, see Figure 4-49. The HWQ factor value is automatically populated by information entered on the sources page. Minimum HWQ factor values are automatically assigned when actually contaminated targets or Nearest Individual values of 45 or greater are entered.

Next, use the drop-down boxes and fill-in boxes to enter information for targets. Quickscore will apply the appropriate weighting factor based on Level of Concentration. Note that when you enter the number of targets for Level I and Level II Concentrations and Potential Contamination, Quickscore will automatically apply the appropriate multiplier for the Population value. For Potential Contamination, use the HRS Distance-Weighted Population Table 6-17 to determine the distance-weighted population, enter that value for potential population, and the program will apply the appropriate multiplier, see Figure 4-50. Once there are data to calculate each Factor Category Value, Quickscore will automatically calculate the Air Migration Pathway score. Be sure to save as you go by pressing the "Save Air Scoresheet" button at the bottom of the page.

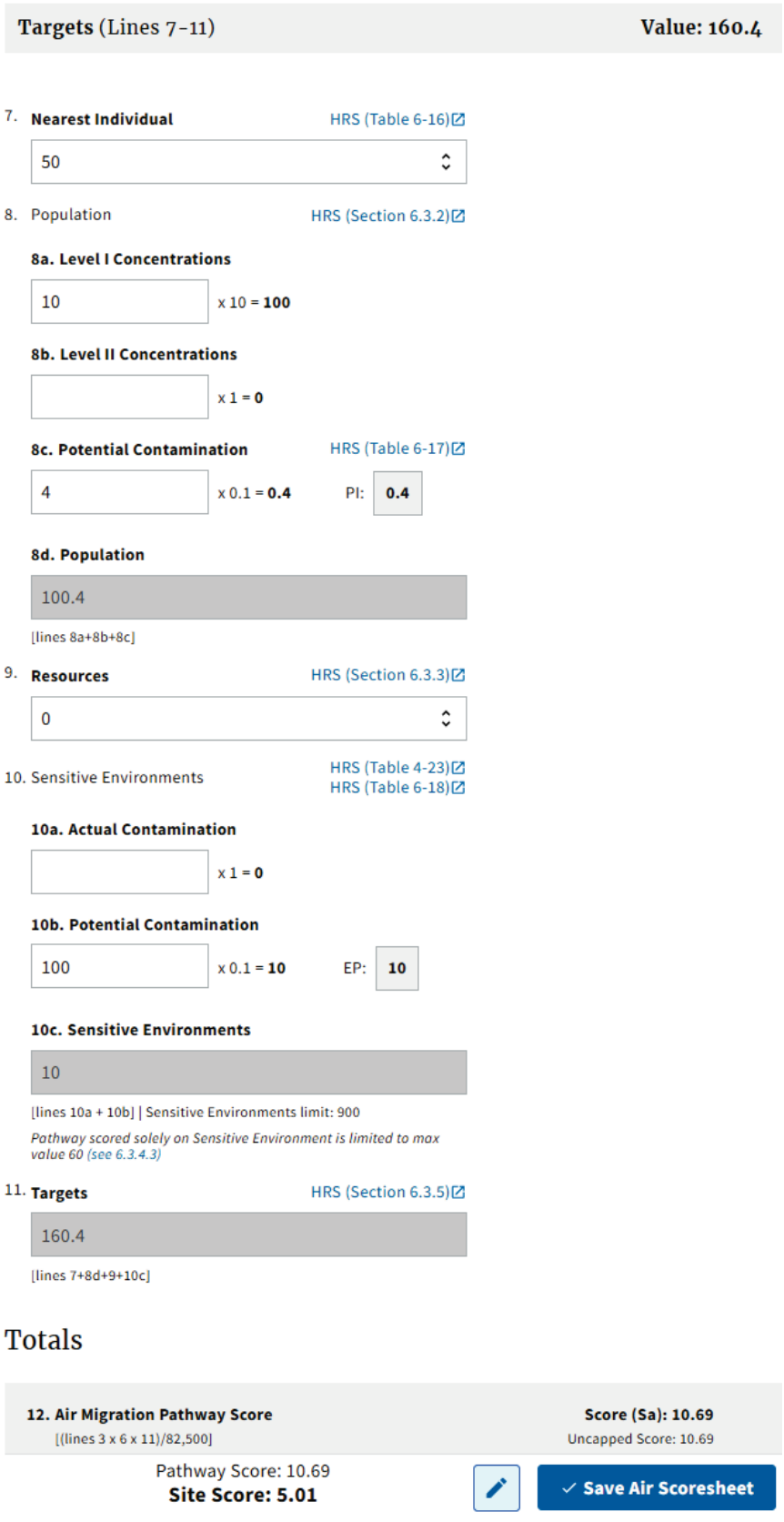


Figure 4-50: Air Pathway Targets