DATIM User Guide (version 17.0)

Chapter 3: DTIM User Guide

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This guide for users of DATIM is supplied by:

Resource Information Group (RIG)
Ecosystem Management Coordination (EMC)
USDA Forest Service (FS)
Washington, DC

Prepared by University of Nevada, Las Vegas.

The full DATIM User Guide Series is available at the RIG-DATIM internet site.

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Preface

The Design and Analysis Toolkit for Inventory and Monitoring (DATIM) is a suite of web-based software tools designed by a team of USDA Forest Service resource inventory and forest planning specialists affiliated with the National Forest System (NFS) and the Forest Inventory and Analysis (FIA) National Program. The purpose of DATIM is to improve natural resource inventory and monitoring designs and data analyses by providing nationally consistent tools with access to forest inventory databases.

This document represents Chapter 3 of the DATIM User Guide Series for version 17.0, and is focused on the Design Tool for Inventory and Monitoring (DTIM). To access the other chapters in the series, please visit the DATIM webpage (opens in browser) hosted by the U.S. Forest Service’s Resource Information Group.

Who This Guide is For

DTIM’s primary user group includes FIA and NFS analysts involved in land management planning, forest monitoring, and assessment. Additional user groups include other Forest Service affiliates (e.g., State and Private Forestry), other federal agencies, state agencies, academic institutions, industrial entities, non-government organizations, and other interested parties.

Conventions Used

A number of text and formatting conventions are used in this guide for decorative purposes. Text conventions include various typefaces used to identify terms and other special objects. These special typefaces include the following:

Table 1. Text Conventions

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Italic</em></td>
<td>A glossary term or phrase when first introduced.</td>
<td>A <em>dataset</em> is a collection of estimation units and data points that are collectively exhaustive and mutually exclusive.</td>
</tr>
</tbody>
</table>
## Convention | Meaning | Example
---|---|---
Underline | A navigation link encountered in the user interface. | Select the Create New Objective link to enter your custom objective. |
Monospace | Text that you type. | Enter “My Custom Objective“ in the text field. |
25% lighter bold | Indicates a label that does not prompt user input or action, such as a page title. | Open the DTIM Report Manager to print your report. |
**Bold/Fill** | Indicates a button that you select. | Select the Project Reports button to print or export the content of a project report. |
**Bold** | Indicates a field name or label prompting user input. | From the Indicator text box, type the indicator associated with the question. |
**Bold italic** | Indicates an option available for selection in a drop-down list. | From the Region dropdown, select All Regions. |
**Web hyperlink** | Provides a hyperlink to a resource on the web (opens in browser). | To access the full User Guide, visit the DATIM webpage hosted by the Resource Information Group. |
**Document hyperlink** | Provides a hyperlink to another location in this document (i.e., a header). | Continue to Step 3: Objectives to identify the objectives for your project. |
SMALL CAPS | Keyboard key that you press. | Hit ENTER on your keyboard to continue. |
Formatting conventions are used to alert you to Notes, Tips, and Cautions:

**NOTE:** Notes point out things you should be aware of to make better sense of the application.

**TIP:** Tips suggest faster, easier ways to accomplish tasks.

**CAUTION!** Cautions are given to help you avoid potential pitfalls that can result in loss of work or other difficulties.

**Illustrations Used**

This guide uses figures (i.e., screen captures) to illustrate information discussed in the text. All figures contain alternative text in accordance with accessibility guidelines. Please note that images used in this document reflect information available at the time of writing and may be slightly different than what the user sees.

**Responsible Organizations**

Support for DATIM is provided by database and software developers employed by the USDA Forest Service in partnership with the University of Nevada, Las Vegas (UNLV). The DATIM project is co-sponsored by the Ecosystem Management Coordination (EMC) Director, and by the National Inventory and Monitoring Application Center (NIMAC) which is part of the FIA program.

The Organizations responsible for DATIM are:

USDA Forest Service  
Ecosystem Management Coordination  
Sidney R. Yates Federal Building  
201 14th Street, SW  
Washington, DC 20024

USDA Forest Service  
Forest Inventory and Analysis  
Sidney R. Yates Federal Building  
201 14th Street, SW  
Washington, DC 20024
Assistance

Information and documents related to DATIM are available on the DATIM webpage (opens in browser) hosted by the Resource Information Group. Users are welcome to report bugs and other issues with functionality, usability, or workflow by sending an email to SM.FS.datim@usda.gov (opens email client). Suggestions for improvements to the application are also welcome.

Login Support

If you need help logging into DATIM using e-Authentication, visit the USDA eAuthentication Contact Us webpage (opens in browser) or Frequently Asked Questions (FAQ) webpage (opens in browser).

System Requirements

To use DATIM, your computer should have a supported operating system and the required hardware components and software resources.

Supported browsers

Google Chrome, Microsoft Edge, Firefox (Internet Explorer is not supported)

Hardware requirements

Memory/RAM: 500 MB (or 2 GB for the Spatial Intersection Tool (SIT) if using ArcGIS on your local machine)

Disk Space: 2.4 GB (or 4 GB for SIT if using ArcGIS on your local machine)

Software requirements

- If SIT is used, ArcMap from ArcGIS Desktop Software 10.7.1 or higher
- High-speed (broadband) Internet connection
- ActiveX Filtering must be disabled
- Microsoft Silverlight 5.0 or higher
Welcome to DTIM

The Design Tool for Inventory and Monitoring (DTIM) was developed to assist natural resource managers to design resource inventory and monitoring plans that meet specific information needs and are statistically defensible. DTIM provides a wide selection of inventory and monitoring objectives, questions, and metrics commonly used by the U.S. Department of Agriculture (USDA) Forest Service (FS) and the FS Regions.

In this chapter you will learn the following:

- How to create a new DTIM project by identifying objectives, questions, and metrics for your project, designing your output tables, and specifying your precision requirements.
- How to load an existing project into DTIM.
- How to use the Report Manager to generate project reports.
- How to use the Dashboard to manage your DTIM projects and sharing privileges.
- How to use the DTIM Administrative Tool to create and manage DTIM templates.
- How to create and manage Teams in DATIM.

Introduction to DTIM

Designing a forest monitoring and inventory plan involves a number of important steps. The first three steps involve identifying the information needs, including determining the broad objectives of your monitoring plan, selecting monitoring questions, and selecting the metrics or indicators for answering the monitoring questions. The next step is to assemble and evaluate existing data to determine if the data are adequate to meet the information needs. If existing data are inadequate, additional steps involve either intensifying an existing inventory or starting a new one, including selecting precision constraints and estimating sample sizes.

DTIM guides you through each of the following planning steps:

- **Selecting objectives:** DTIM presents a list of broad monitoring objectives based on nationally and regionally defined needs for forest monitoring, such as forest health, ecosystem restoration, biological diversity, and forest productivity. You will select broad objectives from this list based on the conditions or outcomes that you desire.
• **Selecting questions:** Based on your selected objectives, DTIM presents a list of generic monitoring questions and indicators that you can select from. For each objective, DTIM designates primary questions that are strongly related to that objective, and secondary questions that are moderately related to the objective. Other questions considered non-pertinent to the stated objective are also available for your selection. You will select one or more questions for each of your selected objectives.

• **Selecting metrics:** Based on your selected objectives and questions, DTIM presents a list of metrics that you can select from. For example, metrics available to answer questions related to crown condition include all live gross volume, basal area, and number of all live trees. For each question selected, DTIM designates primary metrics that are strongly related to that question, and secondary metrics that are moderately related to the question. Other metrics considered non-pertinent to the question are also available for your selection.

• **Assembling and evaluating existing data:** In this step, existing data are assembled and evaluated to determine whether the data are sufficient to answer your monitoring questions. If the data are available in DATIM, estimates can be retrieved from the Analysis Tool for Inventory and Monitoring (ATIM) and used to assess the variability, or precision, of those estimates.

• **Setting precision constraints and estimating sample size:** If existing data are insufficient to answer your monitoring questions based on your precision requirements, you can use DTIM to calculate the required sample size.

Predetermined sets of selectable objectives, questions, and metrics are available in DTIM as base templates, with each template developed for a specific need. Base templates available for in DTIM for developing forest plans include the National Forest Management Act (NFMA) 2012 Planning Rule, Forest Inventory and Analysis (FIA) Intensification, National Forest System Monitoring and Evaluation Framework, Food and Agriculture Organization of the United Nations (FAO), and other templates targeted for specific National Forest System (NFS) Regions or Forest. In addition to the base templates, users can design their own custom templates and share them with other users or teams of users.

**Main Features**

DTIM includes several main features, some of which are available to everyone (including guest users) while others are available only to logged in users and/or to users with the appropriate user role. See [Permissions by User Role](#) for more information.
Base Templates

A *base template* in DTIM refers to a predetermined set of available objectives and associated questions and metrics grouped together for a particular use. A number of base templates are available in DTIM with nationally and regionally defined objectives, questions and metrics. Base templates are created by USFS Regional Administrators and Forest Administrators and made available to other DTIM users.

Permissions by User Role

DATIM user roles are permission-based and determine which tools and functionality are available to you, as shown in Table 2 below. Guests represent users not logged-in. When you register as a DATIM user, you are granted the Registered User role by default. If you believe you qualify for a specialized user role, please contact the DATIM team at sm.fs.datim@usda.gov (opens email client). The appropriate Forest Service administrator will be contacted to verify whether the role may be assigned. If you have more than one user role assigned to you, the role having the highest permission level for any given feature will be applied.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Guest</th>
<th>Registered User</th>
<th>Forest Admin</th>
<th>Regional Admin</th>
<th>FIA Staff</th>
<th>Spatial Data Services</th>
<th>SIT Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create a DTIM project</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Save a DTIM project to the server</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Get a project link for later loading into DTIM</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Share a DTIM project</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Access the Report Manager</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Access the Dashboard (Saved Objects)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Access the DTIM Administrative Tool</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Getting Started in DTIM

To begin your work in DTIM:

1. Visit the DATIM webpage (opens in browser), hosted by the U.S. Forest Service, Resource Information Group.

2. Select the Launch DATIM button located near the top of the webpage. This will load DATIM in the same browser tab.

3. Either login to access the full set of features granted based on your user role or continue to the next step as a guest user.

4. From the DATIM Home page, select the Design button on the main page, or select DTIM in the navigation menu. This will open the DTIM Wizard.
5. From the DTIM Welcome page, select the button corresponding with the functional task you want to use.

6. Select the appropriate link below to go to the section of this User Guide that corresponds with the task you selected.

- [Create New Project (Start Wizard)]
- [Load Project]
- [Copy Public Project]
- DTIM Tools: [Report Manager]
- DTIM Tools: [Project Manager]
- DTIM Tools: [DTIM Administrative Tool]
Create New Project

The DTIM Wizard was designed to guide you through the process of designing a resource monitoring and inventory plan. After selecting a base template, you will identify your project’s objections, questions, and metrics. Following a review of the output table designs, the sampling calculator is used to evaluate existing data to determine whether the data are adequate to meet the information needs, or whether additional samples are needed to meet your precision requirements.

This section walks you through the steps of creating a new DTIM project for the first time. If you want to load a saved project, create a copy of a project, or upload a project saved to your personal file directory, see the Load Project section.

Step 1: Welcome

To launch the DTIM Wizard:

1. Follow the Getting Started instructions to launch DTIM.
2. From the DTIM Welcome page, select the Start Wizard button to begin creating a new project.
3. Continue to Step 2: Base Templates.

Step 2: Base Templates

In this step, you will select a base template. A base template offers a predefined set of available objectives, questions, and metrics based on a specific need or directive, such as the 2012 Planning Rule. Created by Forest Administrators, Regional Administrators, and DATIM Administrators, base templates are made available to the DTIM community to assist others in designing their DTIM projects. Any given base template may not meet all of your particular needs, but you are not limited to the objectives, questions, and metrics offered by that template. You can always create custom objectives, questions, or metrics and add them to your project.

If you do not want to use an existing template, you can design a new project from scratch using a blank template. The blank template does not contain any predefined objectives or questions, but it does offer system-wide metrics and report formatting variables for selection. When you use a blank template, you must create your own custom objectives and questions.
To select a base template:

1. If you want to filter the list of available base templates by the associated NFS Region, use the Region dropdown to select the Region of interest. Otherwise, leave this filter set to All Regions.

2. Select the base template you would like to use, or select Blank Template to create a new project from scratch. You can view More Information about the template near the bottom of the webpage, including the template owner, the associated Region and/or Forest, and the template description and/or reference.

3. Select the Objectives button at the bottom of the page and continue to Step 3: Objectives.

Step 3: Objectives

In this step, you will identify the broad objectives of your inventory and monitoring plan based on your desired conditions or outcomes. If you are using a base template, you can select one or more predefined objectives. You can also create your own custom objectives. If you are using a blank template, you must create each objective you want to use in your project.

The Objectives step is split into three main panels:

- The top panel, titled Objectives Available, presents the list of predetermined objectives from which you will make your selections.

- The middle panel, titled Objectives Selected, contains the list of the objectives you selected or created.

- The bottom panel, titled Project Features, is used to create new custom objectives.

3.1 Define your objectives

In this step, you will select predefined objectives from the base template and/or add custom objectives to your project. If you are using the blank template, you must create your own custom objectives.

1. If you are using a base template, select each desired objective from the Objectives Available panel and move it to the Objectives Selected panel. You can either
double-click an objective to select it, or drag-and-drop it from the top panel to the middle panel. You can select all objectives using the Add All button.

2. To remove an objective from the Objectives Selected panel, either double-click it or drag-and-drop it back to the Objectives Available panel. You can also use the Remove All button to clear your selections and start over.

3. When you are finished selecting objectives for your project, select the Questions button to proceed.

3.2 Create a custom objective

You have the option to add a custom objective to your project. If you are using the blank template, this step is required.

1. Scroll to the Project Features panel near the bottom of the page and select the Create New Objective link.
2. In the New Objective popup dialog, type the new objective in the text box provided. Select the Save button to add the new objective to the Objectives Selected pane.

TIP: If you want to create a new objective by copying an objective already included in the base template and then modifying the text, you can select one of the “Create From Active” options. To begin, click on the objective you want to copy in either the Objectives Available or Objectives Selected panel so that it is highlighted. In the New Objective popup, you can then select the Available Objectives or Selected Objectives link to copy the objective to the text box. You can then modify the text as desired for your new objective.

3.3 Edit or delete a custom objective

If you created a custom objective, you can edit or delete it.

1. Scroll to the Project Features pane and select the Edit/Delete Custom Objectives link.
2. In the Edit Custom Objective popup dialog, select an objective from the Select Objective to Edit list box.

3. To edit the objective, type the revised objective in the New Text box and then select the Save button. To delete the objective, select the Delete button.

3.4 Associate a custom objective with questions

When you create custom objectives, you are provided the option to associate them with questions based on how relevant each question is to a given objective. That way, when you get to Step 4: Questions of the workflow, you can easily determine which questions are best suited to a given objective. This is particularly useful if you intend to share your project with other users for collaboration purposes.
TIP: If you will be associating objectives with custom questions, complete Step 4: Questions of the workflow first and then return to Step 3: Objectives to design your associations. That way, any custom question you create will be available for selection as an association.

1. Scroll down to the Project Features panel and select the Associate with Questions link.

2. In the Associate Custom Objectives with Questions popup dialog, select an objective from the Custom Objective dropdown list.

3. For each question included in the base template, use the dropdown list in the Relevancy column to indicate how relevant the question is to the custom objective.

4. When finished, select the Save button.

When you are finished defining your objectives, select the Questions button at the bottom of the page and continue to Step 4: Questions.

**Step 4: Questions**

Once you have identified the broad objectives of your inventory or monitoring plan, the next step is to identify the questions to be answered for each objective. These questions will help you assess how well the objective is being met. If you are using a base template, you can select one or more predetermined questions. You can also create your own custom questions. If you are using a blank template, you must create each question you want to use in your project.

Questions available for selection are based on the current objective. They are organized by their level of relevancy to the objective to assist you in selecting appropriate questions for a given objective.

- **Custom Questions** are those created by you and are not assigned a relevancy grouping.
- **Most Relevant Questions** are strongly related to the objective. The answers to these questions are considered highly useful in addressing the current objective.
- **Somewhat Relevant Questions** are only moderately related to the current objective. The answers to these questions may only be partially useful in addressing the objective.
Least Relevant Questions are available for selection, but they are not closely related to the objective and are not likely to be selected. You can access these questions by selecting the Show Least Relevant Questions link.

Beneath each question are one or more Indicators. These are variables indicative of specific environmental conditions and determine the types of metrics needed to answer the questions.

The Questions page is subdivided into four main panes. The top pane, titled Current Objective, is used to cycle through the objectives you selected in the previous step. You must select at least one question for each objective included in your project. The second pane, titled Available Questions, presents the list of predetermined or custom questions from which you will make your selections. The third pane, titled Selected Questions, contains the list of the questions you selected or created. The bottom pane, titled Project Features, is used to create and edit new custom questions.

4.1 Define your questions

In this step, you will select predefined questions from the base template and/or add custom questions to your project. If you are using the blank template, you must create your own custom questions.

1. At the top of the page, the objective for which you will be selecting questions for is displayed in the Current Objective panel. If your project has more than one objective, you will use the Previous Objective and Next Objective links to cycle through your objectives.

2. If you are using a base template, select each desired question from the Available Questions pane and move it to the Selected Questions pane. You can either double-click a question to select it, or drag-and-drop it from the top pane to the middle pane.

3. You can select all questions for a relevance grouping using the Add All by Relevance button. In the Add All Questions popup dialog, toggle each relevance grouping of interest and then select the Add button.

4. To remove a question from the Selected Questions pane, either double-click it or drag-and-drop it back to the Available Questions pane. You can also use the Remove All by Relevance button to clear selections by relevance grouping.

5. If your project includes more than one objective, return to the Current Objective panel and select the Next Objective link. Repeat the steps above to add questions for
the next objective. Continue this process until you have added at least one question for each objective in your project.

6. When you are finished questions for each objective in your list, select the Metrics button to proceed.

4.2 Create a custom question

If you are using a blank template, or if you are using a base template and want to create a custom question:

1. Scroll to the Project Features panel near the bottom of the page and select the Create New Question link.

2. In the New Question popup dialog, type the new question in the text box provided.

TIP: If you want to create a new question by copying a question already included in the base template and then modifying the text, you can select one of the “Create From Active” options. To begin, click on the question you want to copy in either the Available Questions or Selected Questions pane so that it is highlighted. In the New Question popup, you can select the Available Questions or Selected Questions link to copy the question to the text box. You can then modify the text as desired for your new question.

3. In the Indicator text box, type the indicator associated with the question.

4. Select the Save button to add the new question to the Selected Questions pane.

5. If your project includes more than one objective, return to the Current Objective panel and select the Next Objective link. Repeat the steps above to add questions for the next objective. Continue this process until you have added at least one question for each objective in your project.

4.3 Edit or delete a custom question

If you created a custom objective, you can edit or delete it.

1. Scroll to the Project Features pane and select the Edit/Delete Custom Questions link.
2. In the Edit Custom Question popup dialog, select an question from the Select Question to Edit list box.

3. To edit the question, revise the text in the New Question box. To edit the indicator, revise the text in the New Indicator box and then select the Save button. To delete the question, select the Delete button.

### 4.4 Associate custom questions with metrics

When you create custom questions, you are provided the option to associate them with metrics based on how relevant each metric is to a given question. That way, when you get to Step 5: Metrics of the workflow, you can easily determine which metrics are best suited to a given question. This is particularly useful if you intend to share your project with other users for collaboration purposes.

**TIP:** If you will be associating custom metrics with questions, complete Step 5: Metrics of the workflow first and then return to Step 4: Questions to design your associations. That way, any custom metric you create will be available for selection as an association.

1. Scroll down to the Project Features panel and select the Associate with Metrics link.

2. In the Associate Custom Questions with Metrics popup dialog, select a question from the Custom Question dropdown list.

3. For each metric, use the dropdown list in the Relevancy column to indicate how relevant the metric is to the custom question.

4. Select the Save button to finish.

When you are finished defining questions for each of your project’s objectives, select the Metrics button at the bottom of the page and continue to Step 5: Metrics.

### Step 5: Metrics

In this step you will select one or more estimation metrics that need to be computed to answer each objective and question pairing included in your project. For each selected metric, you will also design an output table by selecting the variables you want to use for the page, row, and column groupings.
There are two types of metrics in DTIM. The first is the **DTIM-only metric**, which is incompatible with ATIM. That is, you cannot retrieve an estimate or precision value for the metric through ATIM. One of the steps in the inventory and monitoring process is to evaluate existing data to determine whether the data are sufficient to answer your monitoring question based on your precision requirements. If the existing data are unavailable in the DATIM DataMart, ATIM cannot calculate those values for you. Instead, you will select metrics from the DTIM-only list and then input values derived from an outside data source into DTIM. The second type of metric is the **ATIM-compatible metric**, which means the data you are evaluating are available in the DATIM DataMart and that an estimate with associated precision values can be retrieved directly from the reporting tool, ATIM.

DTIM-only metrics are selected from the **Available DTIM Metrics** panel and are categorized by relevancy to the current question. These categories are intended to assist you in selecting appropriate metrics for a given question.

- **Custom Metrics** are those created by you and are not assigned a relevancy grouping.
- **Most Relevant Metrics** are strongly related to the current question. These metrics are considered highly useful in answering the question.
- **Somewhat Relevant Metrics** are only moderately related to the current question. These metrics may only be partially useful in answering the question.
- **Least Relevant Metrics** are available for selection, but they are not closely related to the question and are not likely to be selected. You can access these metrics by selecting the **Show Least Relevant Metrics** link.

ATIM-compatible metrics are available for selection in the **ATIM Compatible Metrics** panel and are sorted by the following themes: Area, Carbon, Change, Down woody material, Growth, Harvest removals (biomass, carbon, number, volume), Mortality, Other removals (biomass, carbon, number, volume), Tree (biomass, count, volume), and Veg. This list includes all possible estimate attributes stored in the DATIM DataMart that can be used by ATIM to generate an estimate for compatible analysis datasets.

The **Metrics** step is divided into five main panels. The top panel, titled **Current Question**, is used to cycle through the questions you selected in the previous step. You must select at least one metric for each question included in your project. The second panel, titled **Available DTIM Metrics**, presents options for establishing the estimation metric and the grouping variables for your output tables. DTIM metrics are those included in the base module, along with any custom metrics created by you. The third panel (to the immediate right of the second pane) is titled
Compatible ATIM Metrics. It also presents options for establishing the estimation metric and grouping variables for your output tables, but using these metrics will allow you to retrieve the population estimate from ATIM on Step 7: Sampling Calculator. The fourth panel, titled Selected Metrics, display your selected estimation metrics and associated page, row, and column variables. The fifth and final panel, titled Project Features, is used to create and edit new custom metrics and output table grouping variables (pages, rows, and columns).

5.1 Define your metrics

In this step, you will select an estimation metric and page, row, and column grouping variables for each objective/question pairing in your project. You can select these either from the Available DTIM Metrics panel or the Compatible ATIM Metrics panel. If you are using DTIM-only metrics, you can also add custom metrics and grouping variables to your project. If you are using the blank template, you must create your own custom metrics and grouping variables.

Note that metrics and the page, row, and column variables are presented as tree items in a select-field panels. You must select the expander to the left of a first-level tree item (e.g., Most Relevant) to display the nested list of second-level items (e.g., Area of forest land (acres)). When an item is selected, the text color will change to white and the background will change to gray.

1. At the top of the page, the question for which you will be selecting questions for is displayed in the Current Question panel. (The question is preceded by the associated objective, which is given in parentheses.) If your project has more than one question, you will use the Previous Question and Next Question links to cycle through them.

2. Starting with Question 1, use either the Available DTIM Metrics or the Compatible ATIM Metrics pane to select an estimation metric from the Metric list.

3. If desired, select a page variable for your output table using the Page list.

4. Using the Row list, select the row variable for your output table.

5. Using the Column list, select the column variable for your output table.

6. Select the Add button to add your selections to the Selected Metrics pane.

CAUTION! If you fail to click the Add button before navigating to the next or previous step, the current metric selection will not be saved to your project.
7. Optionally, repeat steps 2-6 to add more metrics to your current question. At least one metric is required for each question. All added metrics for a particular question will appear in the Selected Metrics pane. To remove a metric from your list, select the Remove link.

8. Select the Next Question link (near the top of the page) to advance to the next question. Add metrics for the question and then continue this process until each question is associated with at least one metric.

9. When you are finished selecting metrics for each question in your list, select the Output Tables button to proceed.

5.2 Create a custom metric

You have the option to add custom DTIM metrics to your project. Custom metrics are not compatible with ATIM and, therefore, will only be available for selection in the Available DTIM Metrics pane. To create a custom metric:

1. Scroll to the Project Features pane near the bottom of the Metrics page and select the Create DTIM Metric link.

2. In the New DTIM Metric popup dialog, type the new metric in the text box provided.

TIP: If you want to create a new metric by copying an existing metric and then editing the text, select the Complete from Currently Selected Metric link. The currently selected metric will be copied to the New DTIM Metric popup dialog where you can modify the text.

3. Select the Save button.

4. Return to the Current Question pane and select the question of interest using the Previous Question or Next Question links.

5. Using Metric list in the Available DTIM Metrics pane, expand the Custom Metrics category and select your custom metric.

6. After selecting your page, row, and column variables, select the Add button to add the new metric and grouping variables to your project. You can view your selections.
in the Selected Metrics pane. (To remove a metric from your list, select the Remove link.)

5.3 Create a custom page/row/column (PRC) variable

You have the option to add custom DTIM page, row, and column (PRC) grouping variables to your project. Custom PRCs are not compatible with ATIM and, therefore, will only be available for selection in the Available DTIM Metrics pane. To create a custom PRC variable:

1. Scroll to the Project Features pane near the bottom of the Metrics page and select the Create DTIM PRC link.

2. In the New DTIM Page, Row, Column Value popup dialog, type the new grouping variable in the text box provided.

   TIP: If you want to create a new PRC variable by copying an existing variable and then editing the text, select the Complete from Currently Selected Page link. The variable currently selected from the Page list will be copied to the New DTIM Page, Row, Column Value popup dialog where you can modify the text.

3. Select the Save button.

4. Return to the Current Question pane and select the question of interest using the Previous Question or Next Question links.

5. In the Available DTIM Metrics pane, select an estimate from the Metrics dropdown list.

6. Using the Page, Row, and/or Column lists, expand the Custom category and select your custom grouping variable.

7. After selecting page, row, and column variables for the current question, select the Add button to add the new and grouping variables to your project. You can view your selections in the Selected Metrics pane. (To remove a metric from your list, select the Remove link.)

5.3 Edit or delete a custom metric

If you created a custom metric, you can edit or delete it.
1. Scroll to the **Project Features** pane and select the **Edit/Delete Custom Metrics** link.

2. In the Edit Custom Metric popup dialog, select a metric from the **Select Metric to Edit** list box.

3. To edit the metric, revise the text in the **New Text** box and then select the **Save** button. To delete the metric, select the **Delete** button.

### 5.3 Edit or delete a custom page/row/column

If you created a custom page, row, and column grouping variable, you can edit or delete it.

1. Scroll to the **Project Features** pane and select the **Edit/Delete Custom PRCs** link.

2. In the Edit Custom PRC popup dialog, select a PRC from the **Select PRC to Edit** list box.

3. To edit the PRC grouping variable, revise the text in the **New Text** box and then select the **Save** button. To delete the PRC, select the **Delete** button.

When you are finished defining questions for each of your project’s objectives, select the **Metrics** button at the bottom of the page and continue to **Step 6: Output Tables**.

### Step 6: Output Tables

In this step, you will review and edit your project’s output tables. An output table comprises a metric and the page, row, and column grouping variables. It is also associated with an objective and question pairing. If you are not satisfied with a given output table, you can easily edit it from the Output Tables page (versus returning to earlier steps in the DTIM wizard). You can also choose whether to exclude each output table in the sampling calculator, which is discussed in **Step 7: Sampling Calculator**.

#### 6.1 Edit an output table

To edit an output table’s metric or its associated page, row, or column grouping variables:

1. Select the hyperlinked metric associated with the output table you want to edit. This will open the Update Output Table Values popup dialog.
2. From the Update Output Table Values popup dialog, use the appropriate dropdown lists to modify your selections.

3. When you are satisfied with your selections, select the OK button to save your changes and return to the Output Tables page.

6.2 Exclude an output table the sampling calculator

Each output table is included in the sampling calculator by default. In the sampling calculator, you can evaluate the precision of the current estimate and determine whether additional samples are needed to meet your precision requirements.

From the Output Tables page, you can exclude an output table from the sampling calculator. One reason you might do this is that another output table uses the same metric and grouping variables, eliminating the need to run both tables through the sampling calculator. Another reason for excluding an output table is that the metric is considered low priority or optional.

To exclude an output table from the sampling calculator, toggle the associated checkbox to remove the checkmark.

When you are finished viewing and editing your output tables, select the Sampling Calculator button at the bottom of the page and continue to Step 7: Sampling Calculator.

Step 7: Sampling Calculator

In this step, you will specify estimation attributes and precision requirements for your project’s output tables. DTIM will then calculate the sample size required to meet the precision requirements.

The Sampling Calculator page is subdivided into six main panes: The Output Tables pane contains your list of output tables. You will cycle through the tables to specify your precision requirements and obtain a recommended sample size from DTIM. The Details pane contains information about the current output table, including the table name (comprising the metric and grouping variables), the associated objective and question, and its compatibility to ATIM. (If it is compatible with ATIM, you will be able to retrieve estimation attributes directly from ATIM.) The Labels pane enables you to specify/edit the names of your page, row, and column variables, if desired. The Sampling Values pane is used to specify information about the existing sample, including the allowable error. The Reference Data from ATIM pane is available if your metric
is compatible with ATIM and the estimate attributes have been retrieved from ATIM. The **Anticipated Sampling Values** pane provides DTIM’s calculation of the required sample size based on the specified precision and confidence level.

In order to calculate the required sample size for a new inventory and to generate estimates that meet your precision requirements, DTIM implements the following equation:

\[
\text{Required Sample Size} = (\text{CV}\% \times t/E\%)^2
\]

where:

- “t” is the t-value associated with a chosen confidence level and number of plots
- CV (Coefficient of Variation) is the sample standard deviation/sample mean
- E is the chosen allowable error, calculated as the half-width of the confidence interval divided by the estimate

The user selects E and the confidence level (and thus “t” is calculated), and must supply information that can be used to calculate CV.

The CV information can come from previous experience. For example, you might know that the CV of volume/acre of forest land in a particular area is roughly 50%. Alternatively, you can use information from ATIM to calculate CV. Information needed from ATIM includes the estimate, the sampling error percent, and the sample size used to calculate the estimate. ATIM-derived CV’s are calculated as follows:

\[
\text{Standard Error} = \text{ATIM Sampling Error (\%)} \times \frac{\text{ATIM Estimate}}{100}
\]

\[
\text{Standard Deviation} = \text{Standard Error} \times \sqrt{\text{sample size}}
\]

\[
\text{CV}\% = \frac{\text{Standard Deviation} \times 100}{\text{Estimate}}
\]

Thus, with the estimate, sampling error, and sample size obtained from ATIM, DTIM can then calculate CV. The allowable error and confidence level specified by the user then allows for the calculation of the required sample size.

The correct use of ATIM summaries to fill in the CV for this tool entails accepting certain assumptions. ATIM summaries are based on the FIA sample and plot design, in which FIA plots are located with an approximately uniform distribution across all land (both forest and nonforest) and water in the population. If the proposed plot design is substantially different or the population for which you are designing an inventory does not include all land and water, the CV
coming from ATIM and used in the sample size equation may not be appropriate. Therefore, it is important to recognize that sample size estimates will be more accurate when the proposed plot design is similar to that of FIA and the definition of the population in which you plan to locate new plots is consistent with that from which the FIA sample was drawn.

### 7.1 Select an output table

In this step, you will select an output table to run through the sampling calculator. Your list of output tables are displayed in the **Output Tables** pane. If you have many output tables in your project, you may find it helpful to prioritize their ordering in the list. Select the up or down button for an output table in the **Position** to move it higher or lower in the list.

1. The first output table in the list is selected by default. To choose a different table, use the **Next** or **Previous** links beneath the **Output Tables** pane to select the next table you want to work with.

2. In the **Details** pane, you can review the information about the output table, including: the table name; the objective; the question; and the metric’s compatibility with ATIM.

---

**NOTES:** The table name begins with the metric, followed by the page, row, and column grouping variables separated by the “by” clause. For example: Area of forestland [metric] by None [page variable] by Ownership group [row variable] by Measurement year [column variable].

If a metric is compatible with ATIM, you will be able to retrieve estimates and precision values directly from ATIM. If it is incompatible, you will need to supply those values yourself.

---

3. Continue with steps 7.2–7.5 below. Once you have finished running an output table through the sampling calculator, an checkmark icon will be added to the **Complete** column. This will help you keep track of your progress.

### 7.2 Retrieve reference data from ATIM

If your output table uses an ATIM-compatible metric, in this step you will retrieve estimation attributes directly from ATIM. This will supply your page, row, and column sub-labels in the **Labels** pane, and the estimate, coefficient of variation (CV) (%) and
number of plots in the Reference Data from ATIM pane. If your table uses a DTIM metric, you will skip this step.

1. In the Details pane, confirm that the ATIM Compatibility field is set to “Compatible.”

2. Select the Retrieve Estimation Attributes link. This will open the Select Analysis popup dialog.

3. From the Select Analysis dialog, either select the State link to select an ATIM analysis by State, or select the Forest link to select an analysis by National Forest.

4. If selecting an analysis by State, select the State of interest to get a list of available of analyses for that State will be displayed. If selecting an analysis by Forest, select the Region first and then the National Forest second. A list of available analysis for that Forest will then be displayed.

5. If desired, view a summary of the analysis by selecting the associated expander.

6. To select an analysis, select the linked analysis name.

7. After the report loads, you will see a table of estimation attributes based on your metric and your page, row, and column grouping variables. The grouping variables will be combined in the first column. For example, if your row variable is “Forest type” and your column variable is “NFS Administrative Forest Code,” a row in the first column may be, “Douglas-fir – Region 5 – Klamath.”

8. In the Action column, select the row containing the estimation attributes you want to send to the DTIM sampling calculator. You can select a specific page, row, and column variable, a row subtotal, a column subtotal, or the grand total at the bottom of the table.

9. Returning to the sampling calculator, see that the information in the Labels and Reference Data from ATIM panes have now been populated.

TIP: ATIM-derived CV’s are calculated as follows:

\[
\text{ATIM Sampling Error (\% \times \frac{\text{ATIM Estimate}}{100}} = \text{Standard Error} \\
\text{Standard Error} \times \sqrt{\text{sample size}} = \text{Standard Deviation} \\
\text{Standard Deviation} \times 100/\text{Estimate} = \text{CV\%} \ (\text{e.g., if SD/Estimate} = 0.1, \text{that is equivalent to} \ 10\% \ \text{CV})
\]
10. Continue with step 7.3 below.

### 7.3 Specify output table labels

In this step, you will specify sub-labels for your page, row, and column variables using the **Labels** pane based on how the data are filtered or subset. If you are using an ATIM-compatible metric, these labels will auto-populate based on the row you select when you retrieve the estimation attributes in the previous step. If you are using a DTIM metric, you will need to supply these labels yourself.

For example, if Forest type is your row variable, you may want to only include data by the Douglas-fir forest type.

1. If your table uses a page variable and you want change the label, enter your custom label in the **Page** text box.

2. If you want to use a custom label for the row variable, enter the new label in the **Row** text box.

3. If you want to use a custom label for the column variable, enter the new label in the **Column** text box.

![Labels pane example](image)

4. Continue with step 7.4 below.

### 7.4 Specify sampling values

In this step, you will use the **Sampling Values** pane to supply information about the existing sample and specify your precision requirements.
1. **Title of the Analysis:** You have the option to enter the geographic scale in the text field provided. The geographic scale will typically be “Forest.” Examples of other geographic scales include “Ecoregion Subsection” and “District.”

2. **Desired Level of Precision (%):** If you are using an ATIM-compatible metric and retrieved estimation attributes from ATIM, the default value of “10” will be populated for you but you can change it. If you are using a DTIM metric, you must input your desired value.

   **TIP:** The precision level is expressed as a percentage of the estimate. For example, if the estimate is 100, and you specify a precision level of 10%, then the desired level of precision would be between 90 and 110. Smaller percentages require a larger sample size.

3. **Confidence Level (1-\(\alpha\))(%):** If you are using an ATIM-compatible metric and retrieved estimation attributes from ATIM, the default value of “68” will be populated for you but you can change it. If you are using a DTIM metric, you must input your desired value.

   **TIP:** Confidence level defines the reliability for estimates you want to attain for your inventory. The confidence level may be interpreted as being the probability that the \(\pm\) (plus/minus) precision level captures the true population value. Note that the smaller the level of precision is, or the higher the desired confidence level is, a larger sample size will be required.

   **CAUTION!** If you retrieved estimation values from ATIM, note that the CV supplied by ATIM was not multiplied by 100 to give CV%. You will need to update this value yourself by multiplying the ATIM-supplied CV by 100.

4. **Coefficient of Variation (CV) (%):** If you are using an ATIM-compatible metric and retrieved estimation attributes from ATIM, this value will be calculated for you but you can change it. If you are using a DTIM metric, you must input your desired value.

   **TIP:** ATIM-derived CV’s are calculated as follows: ATIM Sampling Error (%) X ATIM Estimate/100 = Standard Error. Standard Error * sqrt(sample size) = Standard Deviation. Standard Deviation * 100/Estimate = CV% (e.g., if SD/Estimate = 0.1, that is equivalent to 10% CV).
5. Continue with step 7.5 below.

### 7.5 Get anticipated sampling values

In this step, you will view the Anticipated Sampling Values pane for the sample size required for your specified precision and confidence level (1-\(\alpha\)).

1. View the sample size required for the precision and confidence level in the Anticipated Sampling Values pane.

**TIP:** Approximate required sample size to meet the precision requirement at the selected confidence level (ignoring finite population correction) = \((\text{CV}\% \times t/E\%)^2\) where CV\% is the CV expressed as a percent, \(t\) is the value of the t distribution associated with a large sample and the chosen confidence level, and E\% is the required precision expressed as a percent of the estimate.

**NOTE:** The correct use of ATIM summaries to fill in the CV for this tool entails accepting certain assumptions. ATIM summaries are based on the FIA sample and plot design, in which FIA plots are located with an approximately uniform distribution across all land (both forest and nonforest) and water in the population. If the proposed plot design is substantially different or the population for which you are designing an inventory does not include all land and water, the CV coming from ATIM and used in the sample size equation may not be appropriate. Therefore, it is important to recognize that sample size estimates will be more accurate when the proposed plot design is similar to that of FIA and the definition of the population in which you plan to locate new plots is consistent with that from which the FIA sample was drawn.

2. If desired, return to the Sampling Value pane and adjust your precision values to determine how such adjustments impact the anticipated sample size.

3. Return to step 7.1 and select the next output table in your list, and then repeat steps 7.1-7.5. Continue this process for all remaining output tables in your project.

When you are finished using the Sampling Calculator, select the Run Report button at the bottom of the page and continue to Step 8: View Report.

### Step 8: View Report

In this step, you will run your DTIM report and view the results. The interactive DTIM report includes four primary elements: (1) project metadata; (2) selected objectives, questions, and
metrics (OQMs); (3) output tables; (4) sampling values; and (5) a master view of the previous elements. Each element will be discussed more fully below.

If you have not yet selected the Run Report button at the bottom of the DTIM Wizard, do that now. A new tab will open in your browser displaying the DTIM report. You can also select the Report PDF link to export the report to a Portable Data Format (PDF) file.

8.1 View Project Metadata

The project metadata is displayed in the upper portion of the report. It includes the project title and description, the username of the person who created the report, the date the report was created and last modified. It also specifies the base template used, the name of the user who created the template, and the NFS Region and Forest associated with the template (if applicable).

TIP: Select the Hide Project Metadata link to collapse the project metadata. This will expand the area available to view the report pages.

8.2 View OQMs

The OQMs tab is selected by default. This section of the report includes all of the objectives, questions, and metrics (OQMs) included in the project. For any given objective, select the Questions button to expand the view to include associated questions, indicators, and metrics.

8.3 View Output Tables

Select the Output Tables tab to view the output tables included in the project, along with the associated objectives, questions, and metrics. Every output table included in the project is displayed by default. You can filter the output tables by Objective, Question, or Metric using the associated dropdown menus.

NOTE: An output table name is automatically generated based on the metric and the page, row, and column grouping variables.

TIP: Select the Clear filters link to remove any applied filters.
8.4 View Sampling Values

Select the **Sampling Values** tab to view the anticipated sampling values and specified precision requirements for each metric having a defined output table. Select a metric from **Select Metric** pane to display information about the output table and sampling values.

8.5 View Master Report

Select the **Master** tab to view the comprehensive report. The top portion of this page provides information about the report’s **Output Tables**. The bottom portion of the page provides a table of **Sampling Values** for each output table.

**Step 9: Save Project**

Although DTIM saves your work as you advance through the project creation process, it is important to properly save your project so that you can give it a name and description. This will enable you to easily access it again in future sessions. To save a project directly to DTIM, you must be logged in. If you do not want to login, you can generate a project hyperlink that will enable you to return to your project without logging in. You can also share the link with others so that they can access your project. When you generate the link, the URL is copied to your clipboard. You can copy and paste that URL into your browser to return to the project later.

To save your project (login required):

1. After starting the DTIM wizard, select the **Save** button in the navigation pane. This will open the Save Project popup form.
2. Enter a name for your project in the **Project Name** textbox.
3. Enter a description for your project in the **Project Description** textbox.
4. If your project is associated with a NFS Region, select the region from the **Region** dropdown menu.
5. If your project is associated with a National Forest, select the forest from the **National Forest** dropdown menu.
6. Select the **Save** button. As you continue designing your project, your changes will be automatically saved.
To generate a project link (guest users):

1. After advancing to at least Step 3 (Objectives) of the DTIM wizard, select the Get Project Link in the navigation pane.

2. From the Project Link Generated popup, you can either copy the link and store it in a desired location, or you can retrieve it from your clipboard.

3. To retrieve the project link from your clipboard, press the Windows logo key + V to view your clipboard history and paste from it. (Clipboard history must be turned on.) As you advance through the steps in the wizard, your changes will be automatically saved without needing to generate a new project link.

NOTE: As you advance through the steps of the DTIM wizard to design your project, your changes should be automatically saved. However, due to idiosyncrasies with the automatic save, it is recommended that you save the project (or generate a new project link) again at the end of your DTIM session.

For help loading your saved project or project link, see the Load Project section.
Load Project

Saved DTIM projects can be loaded in three different ways from the DTIM Welcome page: (1) load a saved project that you own; (2) create a copy of a public project; and (3) use a project link to load a project that you created as a guest user without logging in.

NOTE: You can also load saved projects from the My Dashboard (Saved Objects) feature, including projects owned by other users and shared with you. When loading a project from the DTIM Welcome page, you can only load those owned by you.

Load Saved Project

To load a saved project in DTIM (login required):

1. After launching DTIM, select the Load Project button from the Welcome page. This opens the Load Project dialog.

2. If desired, filter the list of saved projects by Template using the dropdown menu. Otherwise, leave this set to All.

3. Use the Project Name dropdown to select a project.

4. Select the Load button to open your project in the DTIM Wizard.

Copy Public Project

Users with advanced privileges (e.g., Region or Forest Administrators) are able to make their DTIM projects “Public.” Other DTIM users are then able to create a copy of a public project, modify it to suit their needs, and then save it as a new project. Changes made to the new project will not affect the original public project.

To create a copy of a public project:

1. After launching DTIM, select the Copy Public Project button from the Welcome page. This opens the Copy Public Project dialog.

2. Select the project you want to copy from the Public Project dropdown menu.

3. Enter a new name for your copied project in the Name of Your Project textbox.
4. Select the Create button to open the new project in the DTIM wizard.

**Load Project Link**

If you used DTIM as a guest user (you did not login) and generated a project link, you can load the project back into the DTIM Wizard by copying and pasting the URL into your browser.
DTIM Tools are accessible in the DTIM sidebar and include the Report Manager, the My Dashboard (Shared Objects) tool, and the DTIM Administrative Tool.

Report Manager

The DTIM Report Manager enables you to print or export the content of a single project report. You can also aggregate reports to combine details for multiple projects and obtain summary and comparative information.

Getting Started

1. In the DTIM navigation panel, select the DTIM Tools button to expand a list of available options.

2. Select the Report Manager link to open the DTIM Report Manager.

Project Reports

To print or export the content of a single project report:

1. In the Step 1: Select Report Type pane, select the Project Reports button to print or export the content of a project report.

2. In the Step 2: Select Project pane, scroll through the list of projects and select the one of interest. Note that you can first filter the list of available projects by template.

3. In the Step 3: Project Details and Report Selection pane, you can view basic information about the selected project. From there, you have three options:

   Option 1: Select the View Full Details button to open the DTIM Project Viewer in a new browser window. You can view the full project report here, including the template, objectives, questions, metrics (with output tables), and precision values (including required sample sizes). You can also run the report from the viewer by selecting the Run Report link at the top of the page.
**Option 2:** Select the **Printable Report** button to open the full, interactive project report in a new browser window. For more information about this report, see **Step 8: View Report**.

**Option 3:** Select the **PDF Export** button to generate the report in a PDF file.

**Aggregate Reports**

To prepare an aggregate report:

1. In the **Step 1: Select Report Type** pane, select the **Aggregate Reports** button to obtain summary and comparative information for multiple projects.

2. In the **Step 2: Aggregate** pane, use the **Region** and **Forest** dropdown menus to select a NFS Region and Forest as the basis for your aggregate report. You can select **All** for both, which will include all regions and/or forests in your aggregation.

3. In the **Step 3: Filters** pane, enter the **Start Date** and **End Date** to filter reports based on the range of creation dates. Note that you can use the **Template** dropdown menu to filter the reports by the associated template.

4. In the **Step 4: Report Selection** pane, select the aggregate report type you are interested in. The report types include the following:
   a. An **Objective Report** displays a list of all objectives belonging to any project based on your selected criteria. Each objective is associated with an aggregate count, indicating the number of projects that included that objective.
   b. A **Question Report** displays a list of all questions belonging to any project based on your selected criteria. Each question is associated with an aggregate count, indicating the number of projects that included that question.
   c. A **Metric Report** displays a list of all metrics belonging to any project based on your selected criteria. Each metric is associated with an aggregate count, indicating the number of projects that included that metric.
   d. A **Projects List** displays a list of all projects that meet your selected criteria.

5. Export the report to either Excel or PDF by clicking the **Excel Export** or the **PDF Export** button.
My Dashboard (Saved Objects)

The My Dashboard (Saved Objects) feature enables you to access your collection of DTIM projects using the DTIM Projects tabbed page. Any project that you create and save in DTIM is added to your dashboard along with any projects shared with you by other users. You can open a project in DTIM, create a copy of the project, and view the project details. If you are the project owner or have Read/Write access to a shared project, you can also edit the project name and description, share the project with other users or teams of users, and delete the project.

The DTIM Projects tabbed page utilizes filters based on project ownership:

- The My Projects filter provides options for working with DTIM projects created by and owned by you. You can open the project in DTIM, edit the project name and description, create a copy of the project, view the project details, and delete the project. You can also share a project with individual users or a team of users.

- The Projects Shared With Me filter provides access to DTIM projects owned by others and shared with you. You can open the project in DTIM, create a copy of the project, and view the project details. If you have Read/Write access, you can also edit the project title and description, delete the project, and share the project with other users individually or as a team of users. If you have Read Only access, you can only open, copy, or view the project details.

- The Public Projects filter provides access to DTIM projects owned by others and made available to all other DTIM users. You can create a copy of the project and view the project details.

To manage your DTIM projects:

Step 1: Open My Dashboard (Shared Objects)

In the DTIM navigation panel, select the DTIM Tools button to expand a list of available options. Select the My Dashboard (Saved Objects) link to open the dashboard. When My Dashboard (Saved Objects) page opens, the DTIM Projects tabbed page will be open by default.
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Step 1: Log in to the Dashboard

1. Access the DTIM dashboard by logging in with your credentials.

Step 2: Filter by Type

In the Available Projects pane, use the Filter by Type dropdown to select My Projects, Projects Shared With Me, or Public Projects.

Step 3: Select a DTIM Project

Select a project from the list box in the Available Projects pane.

Option 1: Open the Project

To open the project in DTIM, select the Open button in the Selected Project Details pane.
Option 2: Modify Name/Description

If you either own the project or have Read Write access to a shared project, you can modify the **Project Name** and/or **Project Description**. In the Selected Project Details pane, enter a new project name or description using the associated text boxes. Select the **Save** button to save your changes.
Option 3: Create Copy

When you create a copy of a DTIM project, you will become the owner of the new, copied project.

1. In the Selected Project Details pane, select the **Copy** button.

2. In the Copy Project popup, enter a **New Project Name** and **New Project Description**.

3. Select the **Create Copy** button to finish. Note that your new, copied project is selected by default in the dashboard.
Option 4: View Project Details

To view the details of a selected project, select the **View Details** button in the Selected Project Details pane.

This will open the interactive DTIM Project Viewer where you can select tabbed pages to view the project details, information about the template used to create the project, and the project objectives, questions, metrics, and precision information. You can also open
the full DTIM project report in a new browser tab by selecting the Run Report link at the top of the page.

Screen capture for illustration purposes

To return to the dashboard, select the Return to My Dashboard (Saved Objects) link at the bottom of the page.

Option 5: Delete

If you are the owner of the project or have Read Write access to a shared project, you can delete the project by selecting the Delete button in the Selected Project Details pane.
Step 4: Manage Project Sharing

If you are the project owner or have Read Write access to a shared project, you can share DTIM projects with individual users or with a team of multiple users. If you have Read Only access, you can view the sharing pane, but you cannot share the project with other users. You can also manage previously shared projects, such as deleting shared users or teams or by changing the access type.

1. After selecting a project from the Available Projects pane, select the Share button located in the Selected Analysis Details pane.

2. From the Share Selected Project dialog, determine whether you want to share the analysis with individual users, or with a team of users. (The top half of the form is used to share with individuals, and the bottom half is used to share with teams.)
NOTE: If you are logged in, you can create new teams using the Manage teams feature, available in the main menu under Admin Tools. See Admin Tools: Manage Teams for more information on how to do this.

Option 1: Share With Users

This option allows you to share a DTIM project with individual users, and to manage the sharing privileges assigned to those users.

To share a DTIM project with another user:

1. Use the Add User dropdown to select a user. Users are identified by their friendly name (if available), separated by their authentication identifier.
2. Use the **Grant Access** dropdown to indicate the permission type the shared member will have. The options include: (1) **Read Only**, which enables the member to view or copy the project but not delete or edit it; and, (2) **Read Write**, which allows the user to edit or delete the project.

3. Select the share button to add the shared member to **Share With Users** list.

**Option 2: Manage Shared Users**

Each user with whom the DTIM project is shared is listed in the **Share With Users** pane. You can stop sharing a custom analysis with a user, or to edit the permission level they are granted.

1. To change the permission level granted to a user, toggle the button in the **Toggle Access** column. (You can identify the current permission level in the **Access** column.)

2. To stop sharing the project with a user, select the trash button in the **Remove Access** column.
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TIP: You can filter the list of shared users by access level or by sharing type (user or team) using the **Filter by Share Type** feature.

**Option 3: Share With Teams**

The bottom half of the Share Selected Project form provides options for sharing the selected DTIM project with teams, and for managing the sharing privileges assigned to teams and team members.

To share a project with a team:

1. Use the **Add Team** dropdown to select a team.

   ![Add Team Dropdown](image)

   TIP: To create a new team, select **Manage teams** from the DATIM navigation menu. It is listed under Admin Tools. For detailed instructions on how to create a new team, see **Admin Tools: Manage Teams**.

2. Select the share button to add the team to the **Share With Teams** pane.

   ![Share with Teams](image)

**Option 4: Manage Shared Teams**

Each team with which the DTIM project is shared is listed in the **Share With Teams** pane. Each shared member is also added to the **Share With Users** pane so that you can stop sharing with users individually or modify the permission level granted to them.
To stop sharing a project with a team:

1. In the **Share With Teams** pane, select an trash button located in the **Actions** column.

![Share With Teams](image)

**Option 5: Manage Shared Team Members**

Each member of the team is listed individually in the **Share With Users** pane. To stop sharing a DTIM project with an individual team member, or to edit the permission level they are granted:

1. Select the trashcan button in the **Remove Actions** column to stop sharing a project with a team member.

![Share With Users](image)

2. To change the permission level granted to a team member, toggle the button in the **Toggle Access** column. (You can see the current permission level in the **Access** column.)
DTIM Administrative Tool

The DTIM Administrative Tool enables administrative users to create new templates, manage base templates, and manage public projects. To use this tool, you must have one of the following user roles assigned to you: Regional Administrator, Forest Administrator, or Administrator.

To get started using the DTIM Administrative Tool, select the DTIM Tools button in the DTIM navigation menu, and then select the DTIM Administrative Tool link.

Manage Templates

If you are the owner of a template, you can modify it, delete it, or activate it from the DTIM Administrative Tool. If a template is owned by another user, you can create a new editable copy and/or archive the original template. To determine if you are the template owner, select the template to expand its details, including the friendly name of the user who owns it. A quicker way to determine if you own a template is if you see options to Modify or Delete it.
Option 1: Modify a Template

To modify an existing template, you must be the template owner.

1. Select the template that you want to work with. Details about that template will be displayed, including the publication status (e.g., pending if it has not yet been activated), the owner, the associated region and/or forest, and the template description.

2. Select the Modify link. This will open the Template Editor.

3. Modify the name, associated region/forest, and/or description on the Template Details tabbed page. Select the Save button when finished.

4. Select the Objectives tab.

   a. To add a new objective, select the Add Objective link and enter the new objective in the text field. Select the Save button to add it.

   b. To import objectives from a text file, select the Import Objectives link. You can then paste your list of objectives into the text box, with each objective separated by a new line character. Select the Save button to import the new objectives.
c. To delete an objective, select the associated Delete link in the **Action** column. This option is only available for objectives that are not already associated with any question.

d. To modify an objective, select the associated Update link in the **Action** column. After you are finished modifying the text, select the **Save** button.

e. To rearrange the position (or the ordering by which the objectives are displayed), select the up or down arrow for the objective you want to reposition using the **Move** column.

5. Select the **Questions** tab.

a. To add a new question, select the **Add Question** link. Enter the new question in the first text field, and enter the indicator in the second text field. Select the **Save** button to add the new question.

b. To import questions from a text file, select the **Import Questions** link. You can then paste your list of questions with associated indicators into the text box. The question and indicator must be separated by a tab character. Each question and indicator pairing must be separated by a new line character. Select the **Save** button to import the new questions.

c. To delete a question, select the **Delete** link in the **Action column**. This option is only available for questions that are not already associated with any objective or metric.

d. To modify a question, select the associated **Update** link in the **Action** column. After you are finished modifying the text, select the **Save** button.

e. To rearrange the position (or the ordering by which the questions are displayed), select the up or down arrow for the objective you want to reposition using the **Move** column.

6. Select the **Metrics** tab.

a. To add a new metric, select the **Add Metric** link. Enter the new metric in the text field and then select the **Save** button.
b. To import questions from a text file, select the Import Metrics link. You can then paste your list of metrics into the text box, with each metric separated by a new line character. Select the Save button to import the new metrics.

c. To delete a metric, select the Delete link in the Action column. This option is only available for metrics that are not already associated with any question.

d. To modify a metric, select the associated Update link in the Action column. After you are finished modifying the text, select the Save button.

7. Select the Page, Row and Column Variables tab.

a. To add a new grouping variable, select the Add Page, Row, Column Variable link. Enter the new variable in the text field and then select the Save button.

b. To import new grouping variables from a text file, select the Import Page, Row, Column Variables link. You can then paste your list of variables into the text box, with each variable separated by a new line character. Imported variables will be available in the Page, Row, and Column dropdown lists, but you can update them after the import to indicate items that should not be included in all dropdowns. Select the Save button to import the new variables.

c. To delete a grouping variable, select the Delete link in the Action column. This option is only available for variables that are not already included in a project.

d. To modify a grouping variable, select the associated Update link in the Action column. After you are finished modifying the text, select the Save button.

8. Select the Exit Editor tab to return to the DTIM Administrative Tool.

9. To ensure that the template is available from the DTIM wizard, you will need to confirm that it is activated. Find the template in the list. If you see an Activate link, select it. (If you see an Archive link instead, that means the template is already activated.)

10. Return to the DATIM Home page to access the modified template.
Option 2: Copy a Template

If a template is owned by another user, you can create a copy of it. You can then edit the copy to meet your current needs.

1. From the DTIM Administrative Tool, find the template you want to copy and select the Create Updatable Copy link.

2. Your copy will now be added to the list of available templates to work with. It will have the same name as the copied template, appended by the word “copy” in parentheses.

3. Select the Modify link associated with the copy. This will open the Template Editor.

4. See Option 1: Modify a Template for guidance in how to modify and activate your new copied template.

Option 3: Delete a Template

If you are the owner of a template, you can delete it from the DTIM Administrative Tool. Find the template you want to delete and select the associated Delete link.

Option 4: Archive a Template

If you are not the owner of a template, you cannot delete the template. You can, however, make it unavailable to other DTIM users by archiving it. From the DTIM Administrative Tool, find the template you want to deprecate and select the associated Archive link.

Option 5: Activate a Template

When you create, modify, or create a copy of a template, it will not become available in the DTIM wizard until you activate it. From the DTIM Administrative Tool, find the template and select the associated Activate link.
Create New Template

If you are a Regional Administrator, Forest Administrator, or Administrator with the associated user role, you can create a new base template in DTIM.

Step 1: Template Setup

1. From the DTIM Welcome page, select the **DTIM Tools** button in the sidebar to expand the menu of options, and then select the **DTIM Administrative Tool** link.

2. From the DTIM Administrative Tool page, select the Create a New Template link. This will open the Create New Template popup form.

3. Enter a name for the new template in the **Template Name** text field.

4. Select an associated NFS region from the **Region** dropdown.

5. Select an associated NFS forest from the **Forest** dropdown.

6. Describe the template in the **Description** text field, including references to any source documentation.

7. Select the **Save** button.

8. From the DTIM Administrative Tool page, find your template in the “Select a Template to Work with” pane and select the associated **Modify** link. This will open the Template Editor.

Step 2: Template Design

1. Modify the name, associated region/forest, and/or description on the Template Details tabbed page. Select the **Save** button when finished.

2. Select the Objectives tab.

   a. To add a new objective, select the **Add Objective** link and enter the new objective in the text field. Select the **Save** button to add it.

   b. To import objectives from a text file, select the **Import Objectives** link. You can then paste your list of objectives into the text box, with each
objective separated by a new line character. Select the **Save** button to import the new objectives.

c. To delete an objective, select the associated **Delete** link in the **Action** column. This option is only available for objectives that are not already associated with any question.

d. To modify an objective, select the associated **Update** link in the **Action** column. After you are finished modifying the text, select the **Save** button.

e. To rearrange the position (or the ordering by which the objectives are displayed), select the up or down arrow for the objective you want to reposition using the **Move** column.

3. Select the **Questions** tab.

a. To add a new question, select the **Add Question** link. Enter the new question in the first text field, and enter the indicator in the second text field. Select the **Save** button to add the new question.

b. To import questions from a text file, select the **Import Questions** link. You can then paste your list of questions with associated indicators into the text box. The question and indicator must be separated by a tab character. Each question and indicator pairing must be separated by a new line character. Select the **Save** button to import the new questions.

c. To delete a question, select the **Delete** link in the **Action column**. This option is only available for questions that are not already associated with any objective or metric.

d. To modify a question, select the associated **Update** link in the **Action** column. After you are finished modifying the text, select the **Save** button.

e. To rearrange the position (or the ordering by which the questions are displayed), select the up or down arrow for the objective you want to reposition using the **Move** column.

4. Select the **Metrics** tab.
a. To add a new metric, select the Add Metric link. Enter the new metric in the text field and then select the Save button.

b. To import questions from a text file, select the Import Metrics link. You can then paste your list of metrics into the text box, with each metric separated by a new line character. Select the Save button to import the new metrics.

c. To delete a metric, select the Delete link in the Action column. This option is only available for metrics that are not already associated with any question.

d. To modify a metric, select the associated Update link in the Action column. After you are finished modifying the text, select the Save button.

5. Select the Page, Row and Column Variables tab.

a. To add a new grouping variable, select the Add Page, Row, Column Variable link. Enter the new variable in the text field and then select the Save button.

b. To import new grouping variables from a text file, select the Import Page, Row, Column Variables link. You can then paste your list of variables into the text box, with each variable separated by a new line character. Imported variables will be available in the Page, Row, and Column dropdown lists, but you can update them after the import to indicate items that should not be included in all drop downs. Select the Save button to import the new variables.

c. To delete a grouping variable, select the Delete link in the Action column. This option is only available for variables that are not already included in a project.

d. To modify a grouping variable, select the associated Update link in the Action column. After you are finished modifying the text, select the Save button.

6. Select the Exit Editor tab to return to the DTIM Administrative Tool.
Step 3: Template Activation

1. To ensure that the template is available from the DTIM wizard, you will need to confirm that it is activated. From the DTIM Administrative Tool, find the template in the list.

2. Select the Activate link associated with the new template.

3. Return to the DATIM Home page to access the modified template.

Restore Archived Template

You can restore a template that was previously archived from the DTIM Administrative Tool.

1. Use the dropdown next to the “Restore Public Archived Template” label to select the template you want to restore.

2. Select the Restore button.

3. Return to the DTIM Home page and select the Start Wizard button. The restored template can now be selected from the list of available base templates.

Manage Public Projects

As an administrator, you have the option to make a DTIM project available to all other users as a public project, even if the project is owned by another user. Once a project is made public, other users can load it from the DTIM wizard or from the Dashboard. You can also reverse this action by making a public project private.

To make a private project public:

1. From the DTIM Administrative Tool, scroll down to the bottom of the page to the Manage Public Projects section.

2. Use the Project Public dropdown to select the project you want to make public.

3. Select the Add button.

To remove a public project:
1. From the DTIM Administrative Tool, scroll down to the bottom of the page to the **Manage Public Projects** section.

2. Use the **Remove Public Project** dropdown to select the project you want to make private.

3. Select the **Remove** button.

This concludes the section on the DTIM Tools. The next section in this guide focuses on a DATIM administrative tool that enables you to create and manage teams.
Admin Tools: Manage Teams

The Admin Tools: Manage Teams feature enables you to create, edit, and access your collection of teams, team members, and shared objects. When you have a team, you can share DATIM objects with them, including DTIM projects. This section describes the options available to you to manage your Team(s).

Create Teams

Before you can manage a team, you must first create a team. (If you have already created a team, you can skip ahead to the next section, Manage Teams.)

1. From the DATIM Home page select Admin Tools > Manage Teams in the navigation menu.
2. Select the Create New Team button on the Manage Teams page. A modal dialog will pop-up with a Team Name and a Team Description text field.
3. In the Team Name text field, enter a name for your team.
   Example Team Name: Natalie’s Team
4. In the Description text field, enter a more detailed team description.
   An example of a team description is:
   For demo of team functionality for the User Guide.
5. Select the Save Team button to save your team and close the modal dialog.
6. If you wish to edit your team details, click the Edit button from the Manage Teams table to update your team name or team description as needed.
7. To delete your team, select the Delete Team button from the Manage Teams table.

Manage Teams

Once a team has been created, you can use the Manage Teams tool to view your team’s shared objects, view team members, edit your team details, and/or delete your team. (If you have not yet created a team, please see the previous section, Create Teams.)
View Shared Objects

1. From the DATIM Home page select Admin Tools > Manage Teams in the navigation menu.

2. Select the **Shared Objects** button for your team on the Manage Teams page. A new page will open containing a table with the columns: Shared Object, Object Type, Owner, Last modified, Last Modified By, and Stop Sharing. If you wish to stop sharing a shared object with a team, select the Stop Sharing button.

3. Select the **Back** button to return to the Manage Teams page.

View Members

1. From the DATIM Home page select Admin Tools > Manage Teams in the navigation menu.

2. Select the **View Members** button for your team on the Manage Teams page. A new page will open. You will see a table with the following columns: Team Member, Access, Edit Team Member, Delete Team Member, and Transfer Ownership. To edit a team member, select the **Edit** button. To delete a team member, select the **Delete** button. To transfer team ownership to a member, select the **Transfer Ownership** button.

3. If you have yet to add members to your team, click the **Add New Member** button.
   a. In the **Users** drop-down menu, search and select a team member that you would like to add to your team.
   b. In the **Access** drop-down menu, select the type of access you want to give your new team member: read only access, or read/write access.
   c. Select the **Save Team Member** button when done, or exit the modal dialog by clicking the close button to return to the View Members page.

4. Select the **Back** button to return to the Manage Teams page.

Edit Team Details and Delete Team

1. From the DATIM Home page, select Admin Tools > Manage Teams in the navigation menu.
2. If you wish to edit your team details, select the **Edit** button from the Manage Teams table to update your team name or the team description as needed.

3. To delete your team, select the **Delete Team** button from the Manage Teams table.

This concludes DATIM User Guide Series, Chapter 3 – DTIM User Guide. Please visit the [DATIM webpage (opens in browser)](https://datim.gov) hosted by the USDA Forest Service Resource Information Group for the full **DATIM User Guide Series**.
References
