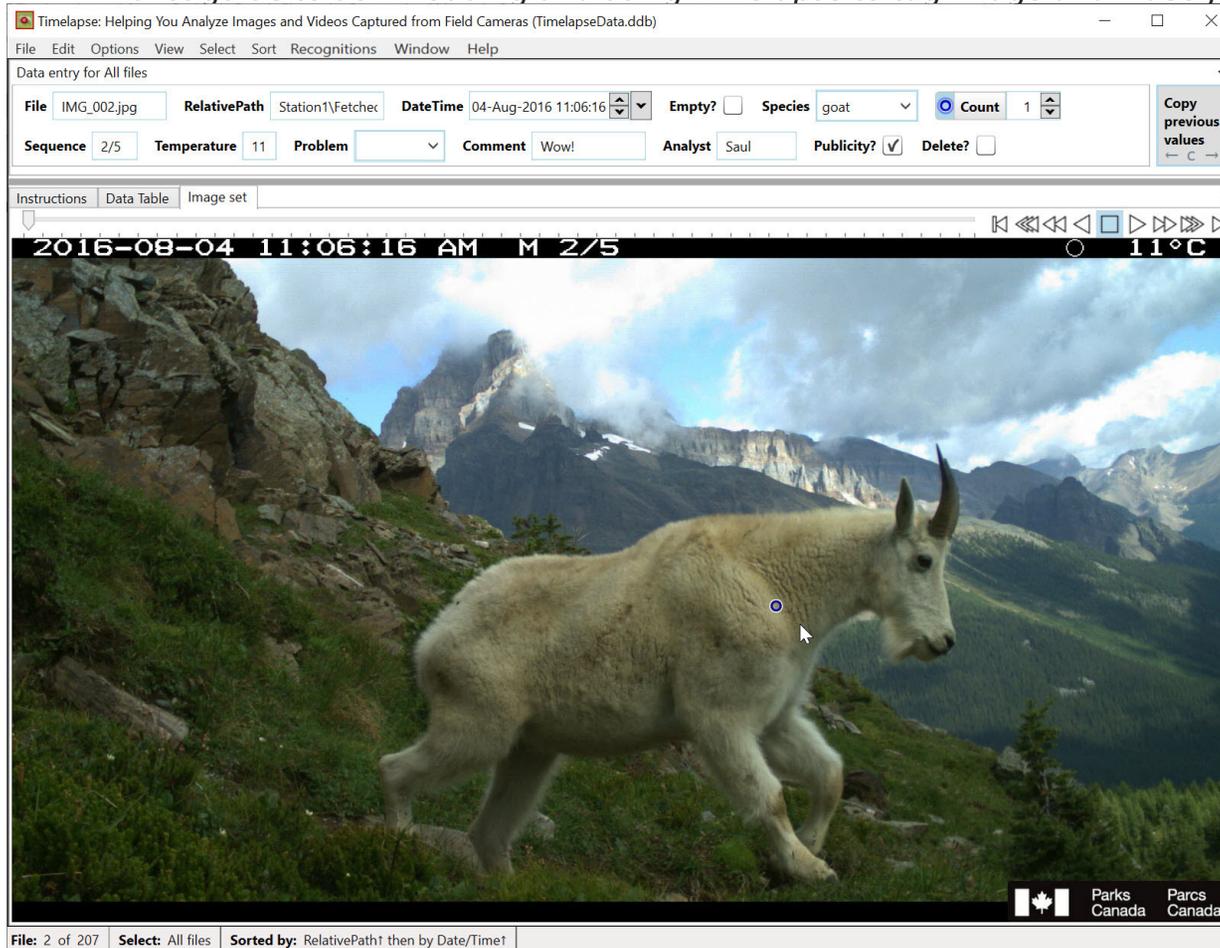


Timelapse Quick Start Guide

A minimalist guide to downloading and using Timelapse to tag image and video files



Saul Greenberg
Greenberg Consulting Inc. / University of Calgary
saul@ucalgary.ca

Part 1 of the *Timelapse Manual Series*. Last updated December 21, 2023, Timelapse Version 2.3.0.9

Timelapse Quick Start

A minimalist guide to downloading and using Timelapse to tag image and video files¹

This QuickStart guide provides a very brief explanation of how to download and use Timelapse to load, inspect, and tag a set of image and video files. Its purpose is solely to get you started: only a handful of the most basic Timelapse features are demonstrated as part of a simple workflow

This step by step guide will show you how to tag a few of the files in the *PracticeImageSet* folder, which is also available for download. That folder includes a template that specifies what data fields will be displayed by the Timelapse interface. A later section of this guide will show you how to create your own template.

The guide also has a [companion video](#), which mirrors all the steps shown here. It is also available on the [Timelapse Video Tutorials page](#).

Beyond this guide. While this guide will get you started, there are many Timelapse features you should know about that are not discussed here. It is well worth your time to explore those features, as they will help you construct a truly efficient workflow for tagging files.

Several resources go beyond the Timelapse basics discussed in this guide. They will introduce you to the very rich set of facilities offered by Timelapse.

1. **Other guides.** We recommend watching the [Whirlwind Tour of Timelapse](#) and reading (or at least scanning) the [Timelapse Reference Guide](#) and [Timelapse Template Guide](#).
2. **Videos** are available on the [Timelapse Video Tutorials page](#) that illustrate individual features in depth.
3. **Frequently asked questions** on the [Timelapse FAQ page](#) list common questions and answers.

¹What you see when you run Timelapse software may not exactly match the screen images in this guide, due to updates made in the software after these screen images were taken. These differences should not affect your general understanding.

Table of Contents

Timelapse Quick Start	2
The Problem	3
The Timelapse Software	4
TimelapseTemplateEditor	4
Timelapse	4
Installing Timelapse	5
Installing the Practice Image Set	5
Loading the Practice Image Set	6
The Timelapse Interface	7
A Basic Workflow for Tagging Files	9
Step 1. Selecting a Working Subset of Files	9
Step 2. Copy a Field's Value to All Selected Files	10
Step 3. Populate a Field from a File's Metadata	10
»What is Metadata and why is it useful?	10
»Populate Temperature and Sequence data fields with metadata	11
Step 4. Inspect each file to fill in the remaining fields	12
»The Copy Previous Values button	12
»Using the Overview to Tag Multiple files	13
»QuickPaste	14
Exporting your Data	16
Correcting Date and Time Errors	17
Creating your own Custom Template	18
Beyond the Basics	20

Credits. Camera trap images used in this manual are used with permission or obtained from public repositories. *Sources:* Parks Canada; Lila Science- Idaho Fish and Game data set; Lana M. Ciarniello, Aklak Wildlife Consulting. Everything else ©Saul Greenberg, 2022.

The Problem

Camera traps, also called *field cameras* or *wildlife cameras*, capture images or videos of events at strategic locations, either at regular intervals or when any motion is detected. These are saved as photo or video files on a camera card. Cards are periodically retrieved from the camera, where its files are uploaded to a computer and stored in one or more folders.

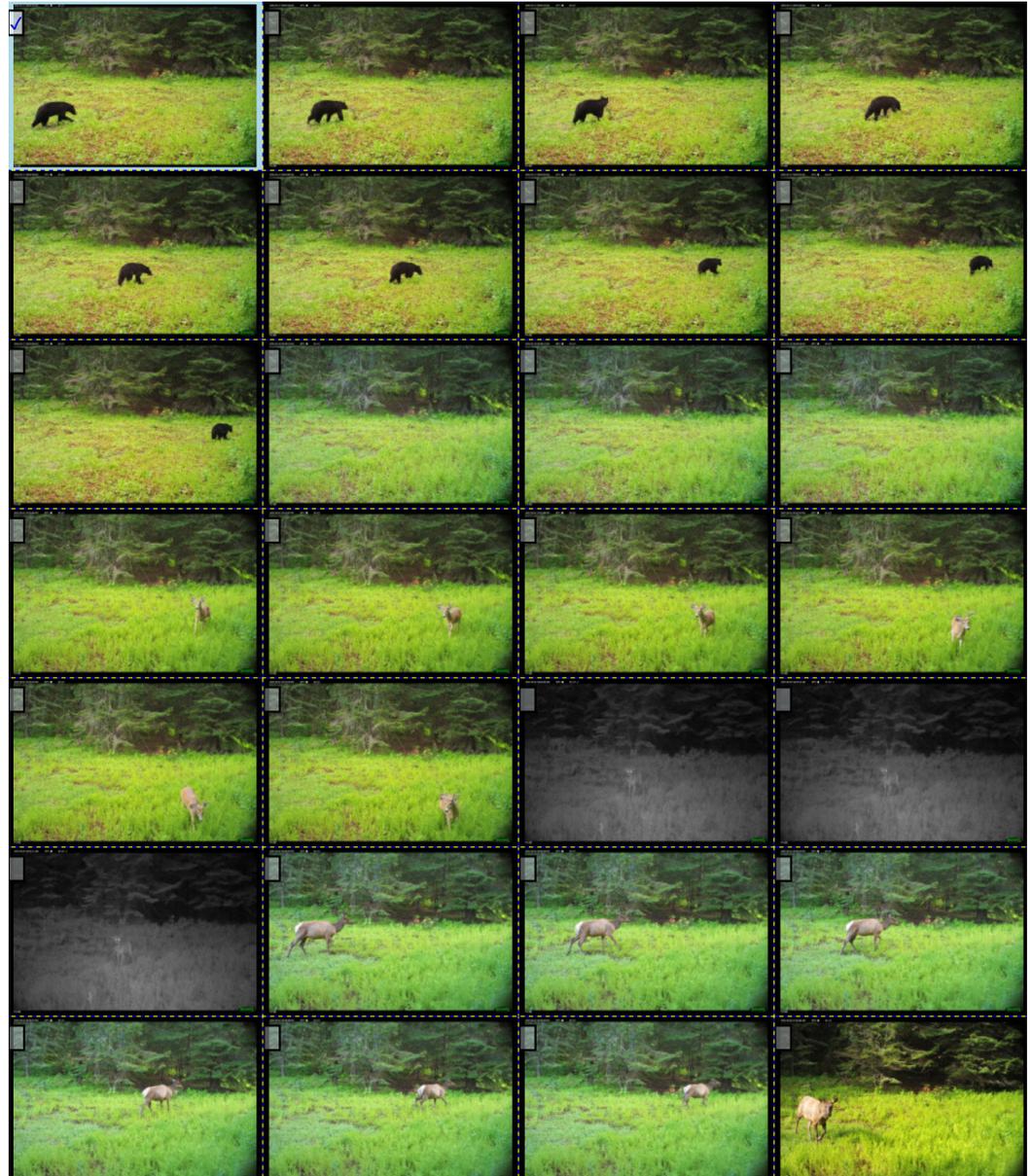
Analysts then visually examine each image or video, where they encode what they see by filling in data fields, each field representing a *tag*. Tags record anything of interest: descriptions, classifications, and counts of any entities present in the scene (vehicles, people, wildlife, birds, instruments, etc), conditions (weather, foliage movement, etc), generic comments, and more. Each project usually specifies its own unique tags of interest.

For example, consider a project that captures wildlife use of an area over time. After files are retrieved, the analyst has to visually inspect a huge number of images or videos and encode what is seen in each file as tag data, such as in the examples below.

- *File and Relative Path*: the image file name and its folder location.
- *DateTime*: Date and time the image or video was taken.
- *Empty?*: False if no wildlife is present.
- *Species*: The species seen in an image.
- *Count*: The number of each species present.
- *Sequence*: Position of this image in a motion-triggered sequence.
- *Temperature*: The ambient temperature in Celsius.
- *Problem*: A condition that made it difficult to evaluate the image
- *Comment*: any comments the analyzer wishes to add.
- *Analyst*: Person who analysed this image.

- *Publicity?*: True for excellent image useful for publicity purposes.
- *Delete?*: Mark a file as a candidate for deletion.

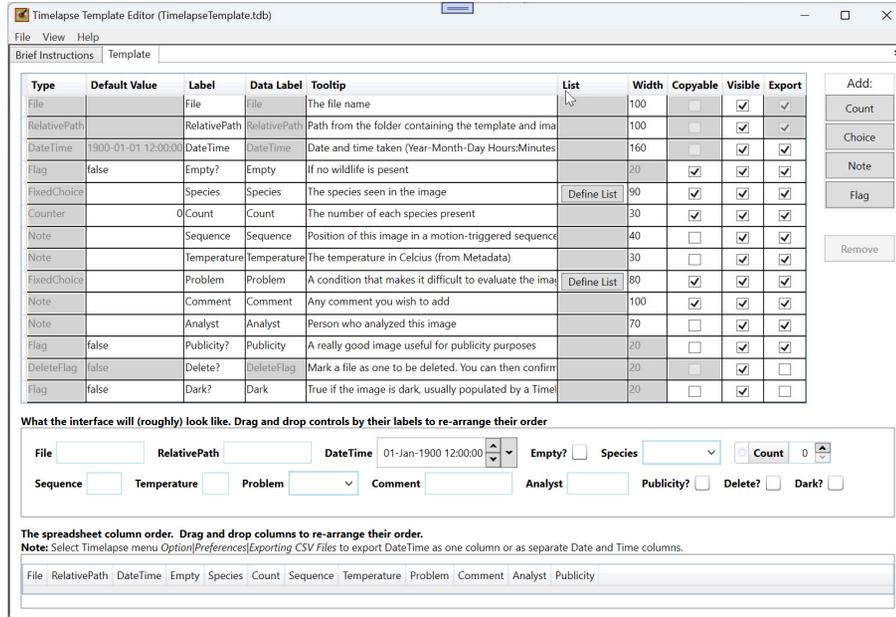
The problem is that visually analyzing and tagging data from the massive number of images produced by camera traps can be tedious and expensive.



The Timelapse Software

Timelapse is free software designed to simplify tagging of image and video files¹. It consists of two programs, illustrated and very briefly described below. Both run in Microsoft Windows, or an Apple Macintosh running a Windows emulator.

TimelapseTemplateEditor

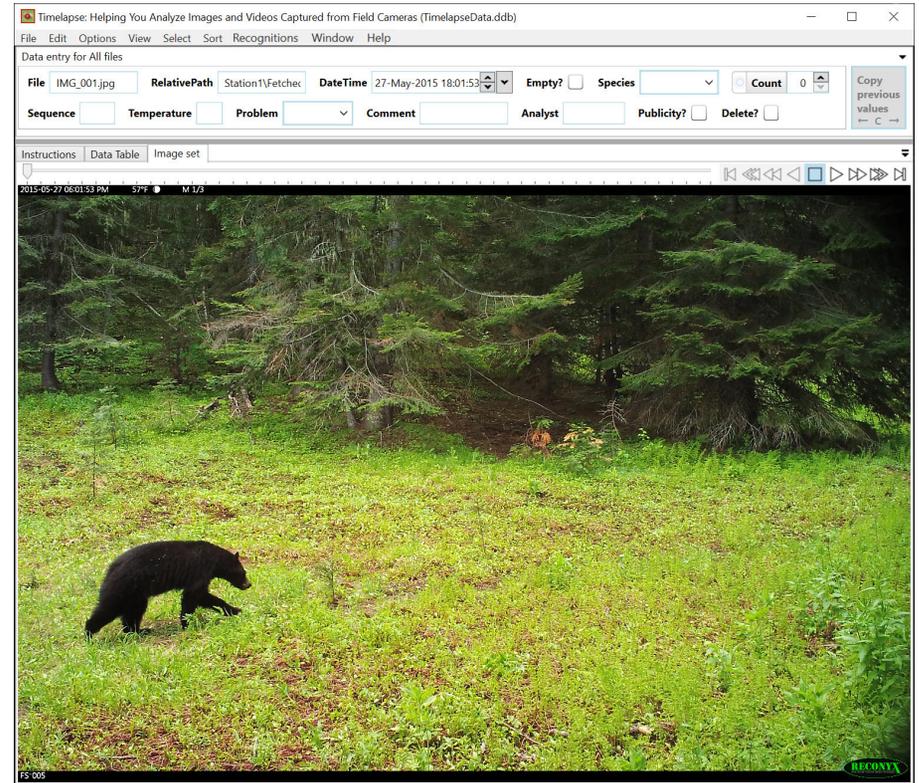


A project manager uses the *Timelapse Template Editor* to create a custom project-specific *template* specifying the data fields that analysts will use to tag each image.

For example, the above screenshot of the Timelapse Template Editor defines fields for wildlife monitoring as described on the previous page. However, any data field can be defined. This means that Timelapse can be customized to a broad variety of domains and purposes, e.g., fisheries management, social studies, laboratory instrumentation monitoring, etc.

¹To avoid excessive repetition, this manual will generally use *image* as a generic term that covers both image and video files. While differences exist, the process for tagging images and videos is mostly the same.

Timelapse



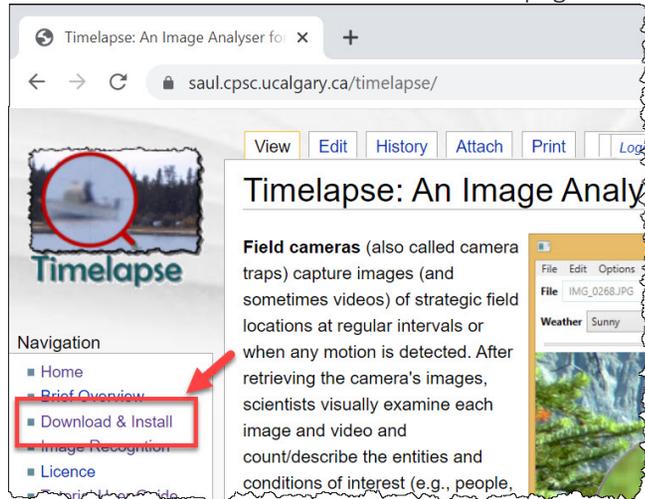
An analyst uses *Timelapse* to open that template and the folders (including sub-folders) containing the image and/or video files (collectively called the *image set*). Timelapse automatically loads and goes through all files and extracts information from them (e.g., file name, file location, date and time the image was taken).

The main Timelapse window then displays a series of fill-in data fields corresponding to what was specified in the template, along with tools for displaying and navigating through the image or video files. The analyst inspects each image and video, and tags them by filling in their data fields.

Timelapse includes many features for making this process efficient.

Installing Timelapse

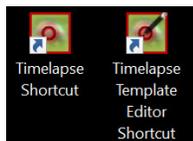
1. Go to the Timelapse web site:
<https://saul.cpsc.ucalgary.ca/timelapse/>
2. Follow the links to the [Download and Install](#) page.



3. On the download page, read the instructions on how to download, install and run the software. The download will be a single zip file named *Timelapse-Executables.zip*.

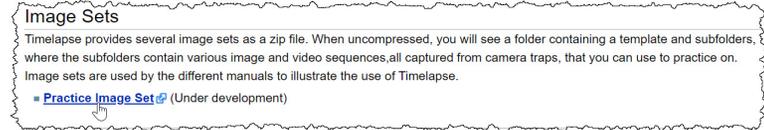


4. Extract the contents of that file to a convenient location (e.g., your desktop). You should now have a folder called *Timelapse*.
5. Within that folder, you will see two programs: *Timelapse.exe* and *TimelapseTemplateEditor.exe*. As all other files in that folder are required by Timelapse, leave the Timelapse executables in that folder.
6. For convenience, create shortcuts on your desktop to these programs.

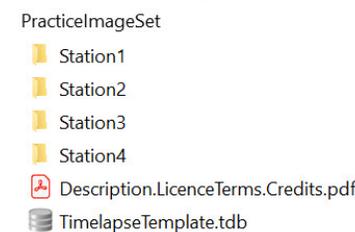


Installing the Practice Image Set

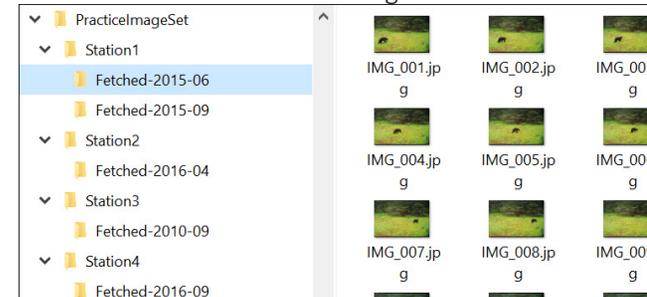
1. Select [User Manuals and Image Sets](#) from the sidebar on any Timelapse web page. Then select the link for the Practice Image Set. This downloads a single zip file named *PracticeImageSet.zip* (~500 MB). Extract the contents of that file (a folder called *PracticeImageSet*) to a location of your choosing.



2. The *PracticeImageSet* folder contents should look something like this.



3. The *TimelapseTemplate.tdb* file is an example template specifying the data fields Timelapse will display. Its use will be discussed shortly.
4. A *Station* represents a camera location that captures images or videos within the same field of view. Each Station folder contains one or more sub-folders named *Fetches-<date>* that contain the files retrieved from that stations' camera card on a given date.

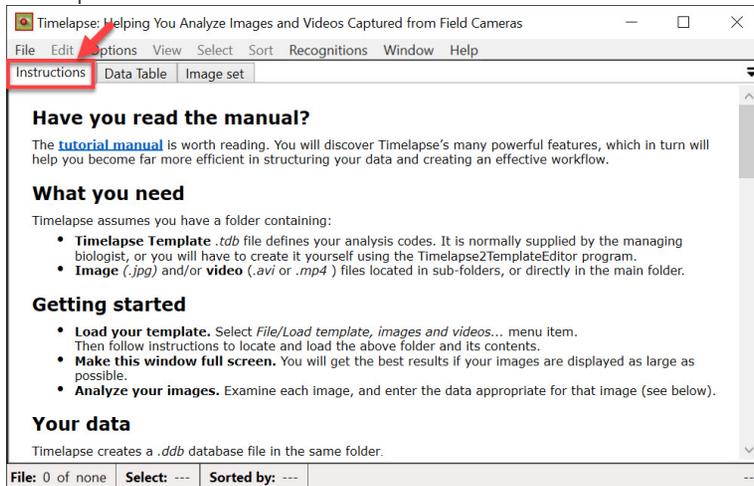


License terms for images and videos in the PracticeImageSet folders.
The practice image and video files were made available by other agencies. Their use beyond Timelapse-specific educational purposes must adhere to the license terms described in the file *Description.LicenceTerms.Credits.pdf*, included in the *PracticeImageSet* folder.

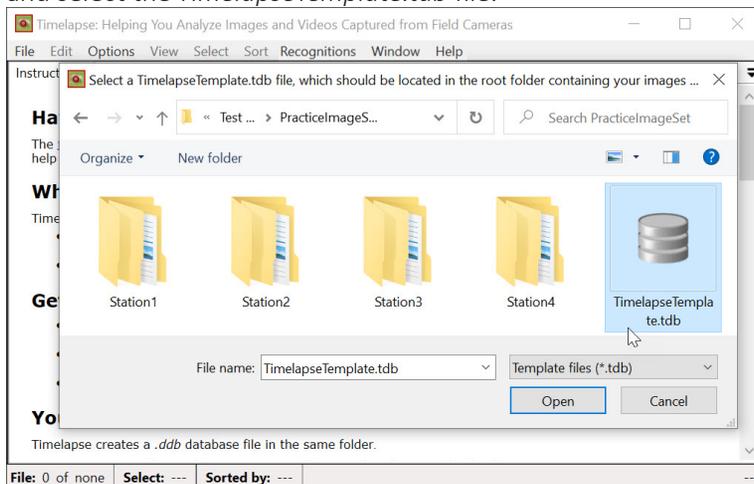
Loading the Practice Image Set

The next step is to load the template, images and videos in the *PracticeImageSet* folder into Timelapse.

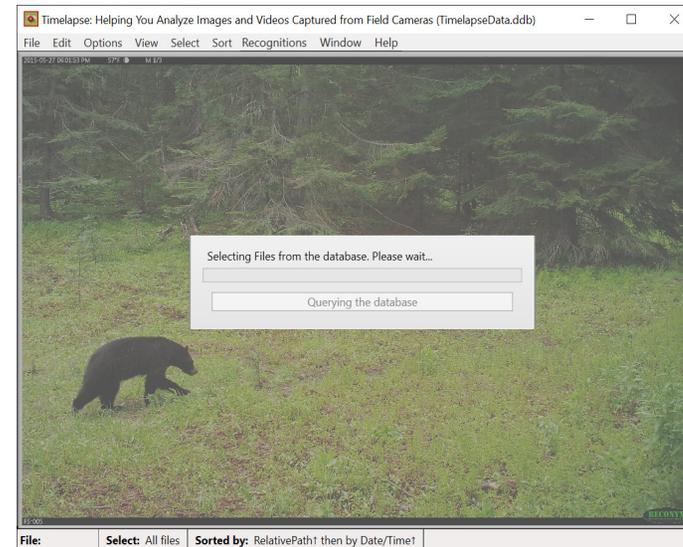
1. Start the Timelapse software through its icon or shortcut. A window appears with brief documentation of Timelapse's main features. You can revisit this documentation at any time by selecting the *Instructions* tab at the top.



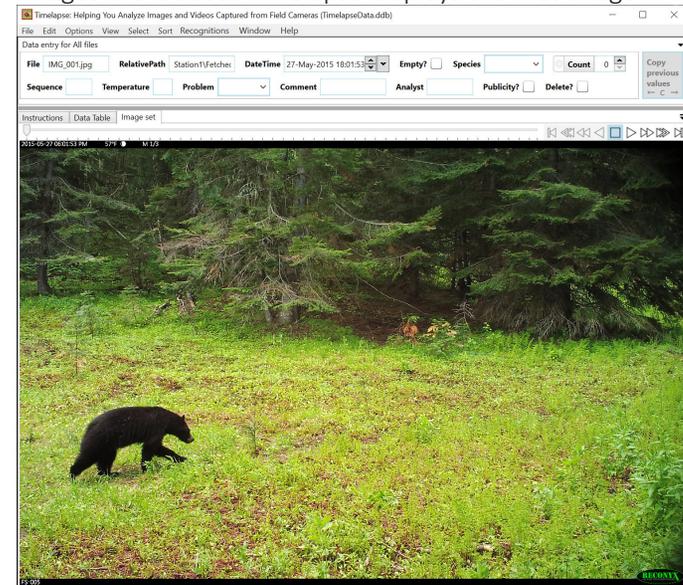
2. Load the image set. Select *File | Load template, images, and video files...* Navigate to the *PracticeImageSet* folder (which will be the *root folder*), and select the *TimelapseTemplate.tdb* file.



3. Wait for your images to be loaded. Timelapse displays feedback as it searches for and loads all images and videos contained within the root folder and its sub-folders. It also creates a database (*TimelapseData.ddb*) in the root folder.

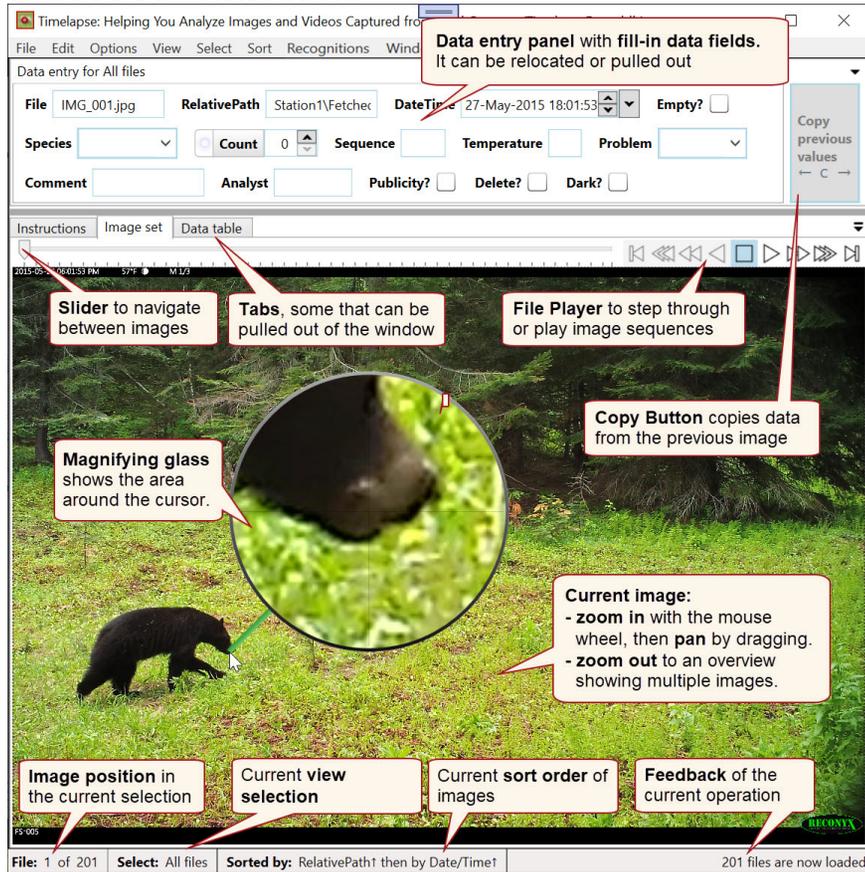


4. Images are loaded. Timelapse displays the first image in its window.



The Timelapse Interface

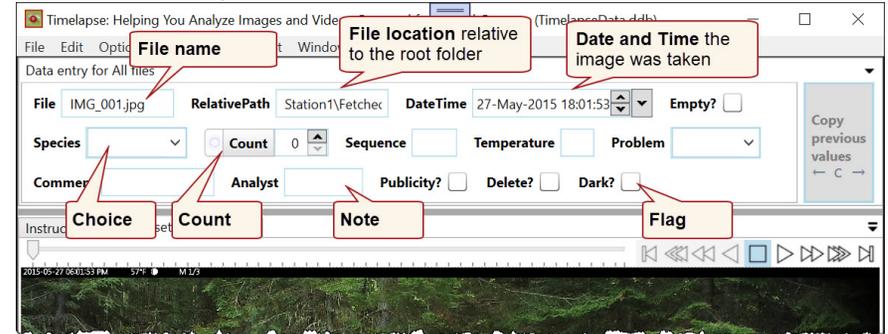
The primary view. You should now see a set of fill-in data fields at the top, and the first image in your image set at the bottom. The basic Timelapse controls are annotated below.



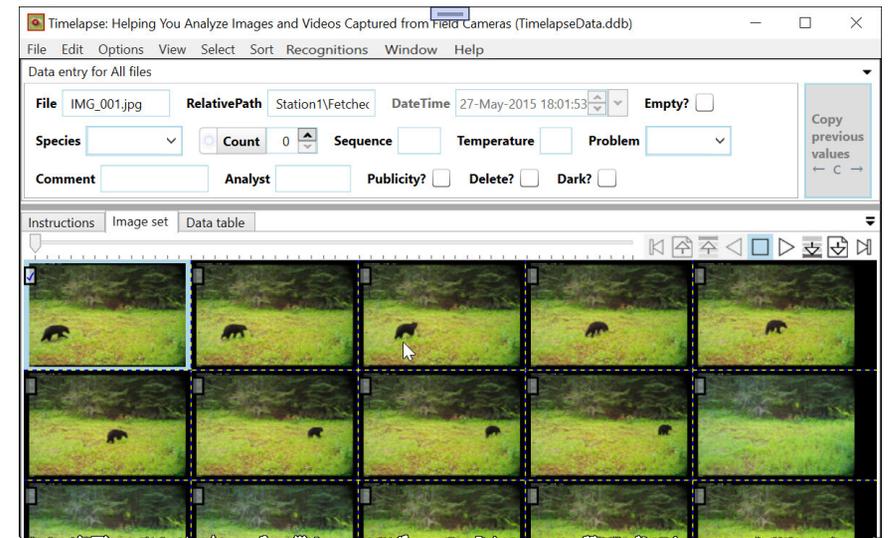
Note. You can display or hide the magnifying glass by the menu selection *Options | Magnifying Glass | Display magnifier*, or the keyboard shortcut **M**

The data entry panel contains the data fields for tagging images. Most are familiar. Using Timelapse jargon, *notes* provide text entry fields, *choices* provide a drop down menu for making selections, *flags* provide checkboxes for setting true/false values, and *counters* allow numeric entry.

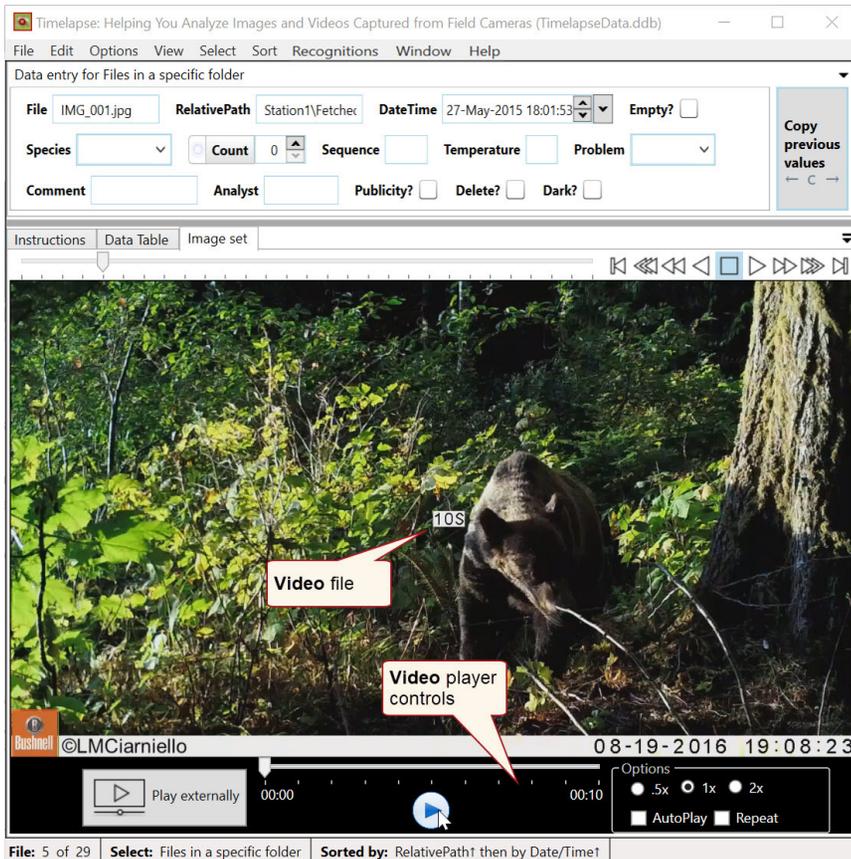
Timelapse automatically fills in certain fields with values extracted from the files as they are loaded including, but not limited to, various file and date/time attributes.



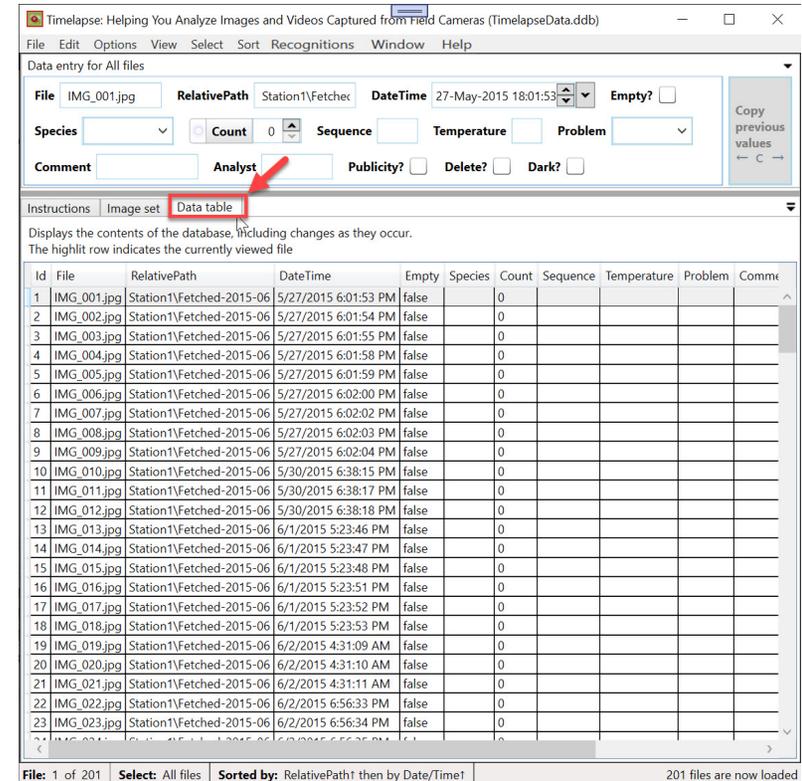
The Overview displays multiple images. Zoom out of the image to get the overview. To do this, select *View | Zoom out* from the menu, or your mouse scroll wheel (try both directions), or via the keyboard shortcut keys **<>**. The File Player can also be used to scroll through the images an image, a row or page at a time.



The Video player appears when the file is a video. It allows you to scrub through the video, control its playback speed, auto-play or repeat the video, zoom into the video image, and even play the video in an external video player of your choosing.



The Data Table appears when you click on the *Data Table* Tab. It lists the current contents of the database. Each row is the data associated with a particular file, while each column represents a data field.



Note. There are several differences in how data columns appear when compared to the data fields visible in the data entry panel.

- *Column headers may not match the labels of the fill-in data fields.* The Timelapse template defines two different labels for each data field: a text label that appears next to the data field in the user interface, and a data label that names the database column that stores that data. The data table shows the database column names.
- *The data table contains extra data columns.* The template includes options to show or hide various data fields in the user interface. For example, if (say) the visibility of the Dark? data field was turned off, it would not be visible in the user interface controls but would still be displayed in the Data table.

A Basic Workflow for Tagging Files

An *workflow* for image tagging is a sequence of tasks that an analyst roughly follows for inspecting images and producing tagging data.

There are many workflow variations in how analysts can inspect and tag images. The workflow steps summarized below and detailed in the following sections were chosen to illustrate a few of Timelapse's basic features for image inspection and reasonably efficient data entry.

1. If your task involves only a subset of files, select that as a working subset.
2. Use a single operation to fill in certain fields for all your selected files, including fields:
 - a. That should contain exactly the same value for all the files;
 - b. Automatically populated with each file's metadata
3. Visually inspect each file to fill in the remaining fields file by file. You can choose from various Timelapse features to make this process efficient:
 - a. The *Copy previous values* button
 - b. The *Overview*
 - c. Creating and using *QuickPaste* shortcuts.
4. Export your data to a CSV file that can be viewed in a spreadsheet program.

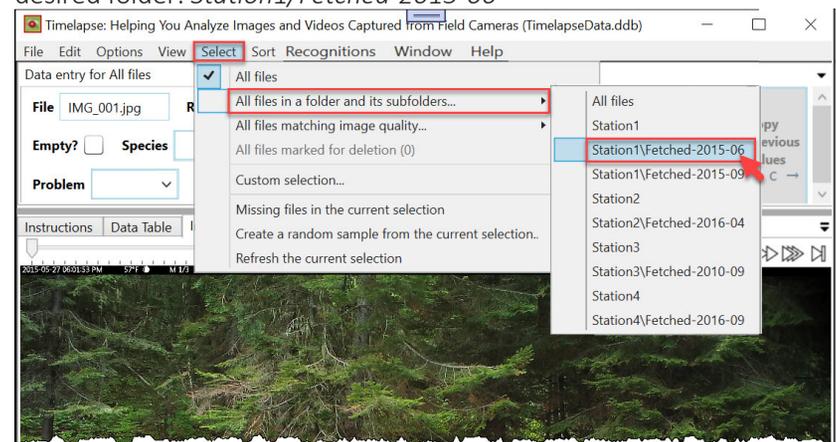
The following sections illustrate each of these workflow steps.

Step 1. Selecting a Working Subset of Files

In this scenario, you are asked to tag only those files found in a single folder: *Station1/Fetched-2015-06*. To ensure that only those files are tagged, you can have Timelapse select and display only those files.

Timelapse includes a powerful database query engine that you can use for this purpose, where particular queries are available under the *Select* menu. Folder selection is one such query.

1. From the *Select* menu, choose *All files in a folder and its sub-folders...* which then displays a list of all folders in the image set. Choose the desired folder: *Station1/Fetched-2015-06*



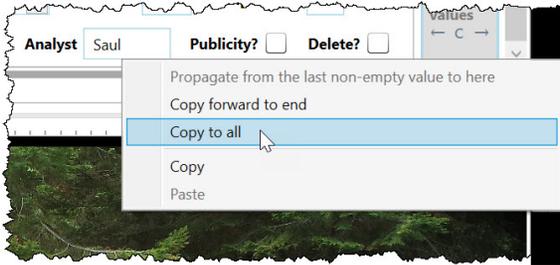
2. Only files in that folder will now be displayed. The status bar verifies this. From the 201 files originally displayed, it now shows only the 42 files in that folder, and that *Select* is set to 'Files in a specific folder'.



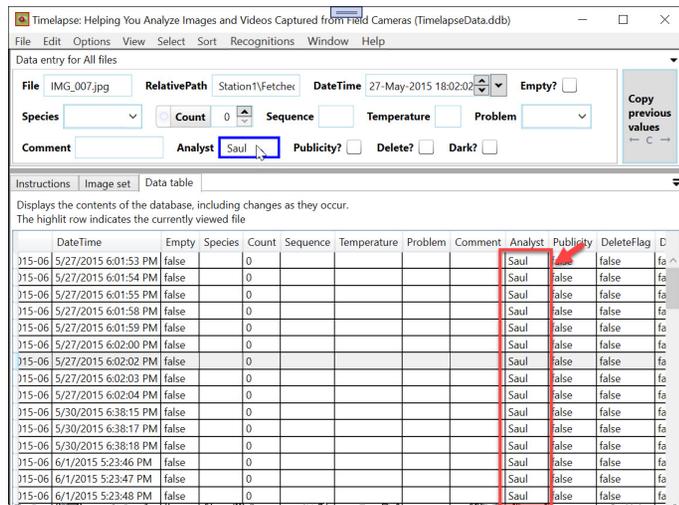
Step 2. Copy a Field's Value to All Selected Files

The *Analyst* data field should contain your name. While you could type it in repeatedly as you inspect every file, that would be tedious. Instead, you will use Timelapse's *Copy to all* shortcut that lets you efficiently copy a field's contents to every single image.

1. In the 1st file, type your name into the *Analyst* data field.
2. Raise the *Analyst* context menu by right-clicking the data field.
3. Select *Copy to All* from that menu.



4. All other images will now have that field filled in with your name. You can verify this in several ways.
 - a. Navigate through the files using the slider, the file player, or the left/right arrow keys on your keyboard. Inspect the *Analyst* data field's value, which should be the same across all files.
 - b. Select the *Data Table* tab and scroll to the *Analyst* column. All files should have the Analyst name filled in.

A screenshot of the Timelapse software interface showing the 'Data Table' tab. The table displays metadata for multiple files, including DateTime, Empty, Species, Count, Sequence, Temperature, Problem, Comment, Analyst, and DeleteFlag. The 'Analyst' column is highlighted in red, and the value 'Saul' is visible in the first row of the table. A red arrow points to the 'Analyst' column header.

DateTime	Empty	Species	Count	Sequence	Temperature	Problem	Comment	Analyst	Publicity?	DeleteFlag	D
15-06 5/27/2015 6:01:53 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:01:54 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:01:55 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:01:58 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:01:59 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:02:00 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:02:02 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:02:03 PM	false		0					Saul	false	false	fa
15-06 5/27/2015 6:02:04 PM	false		0					Saul	false	false	fa
15-06 5/30/2015 6:38:15 PM	false		0					Saul	false	false	fa
15-06 5/30/2015 6:38:17 PM	false		0					Saul	false	false	fa
15-06 5/30/2015 6:38:18 PM	false		0					Saul	false	false	fa
15-06 6/1/2015 5:23:46 PM	false		0					Saul	false	false	fa
15-06 6/1/2015 5:23:47 PM	false		0					Saul	false	false	fa
15-06 6/1/2015 5:23:48 PM	false		0					Saul	false	false	fa

Step 3. Populate a Field from a File's Metadata

What is Metadata and why is it useful?

Image and video files almost always contain *metadata*: data describing various properties of that file. Metadata is often written to the file when an image or video is taken. The examples below illustrate different metadata that could be included in camera trap files.

- *Exif standard* defines what metadata JPEG image files should include, such as camera model, exposure time, whether a flash was used, etc.
- *File metadata* describes general file attributes, e.g., the file size.
- *Makernotes* are camera and model-specific data that the camera manufacturer decides to include. For example, some camera trap models record the ambient temperature at the time an image was taken.
- *Video metadata* is idiosyncratic, where what is recorded can vary greatly. Its metadata may or may not include fields such as the video frame rate, duration, audio sample rate, etc.

While most recorded metadata will be of little use to you, some may be quite valuable. Some examples are below.

- *Date the image or video was taken*. When files are first loaded, Timelapse examines each file for metadata that records the time the camera took the photo. This is more reliable than using the file system's creation data, as that may change when files are copied.
- *Ambient temperature*. The temperature at the time the image was taken.
- *Event type*. Whether the camera took the image in *timelapse mode* (i.e., at specified time intervals) or *motion-triggered mode* (i.e., when motion was detected).
- *Sequence*. Some cameras, especially when motion-triggered, will take a sequence of images. The sequence metadata records where the image is in that sequence (e.g., 1 of 3).

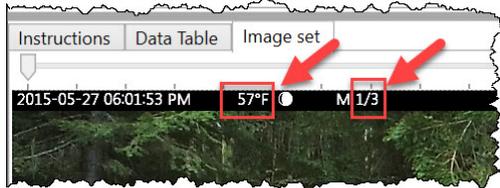
Caveat. There is no guarantee that your images or videos will include the desired metadata. Even if it does include that data, you may still have to determine the name of the metadata field, and perhaps even the format of the data recorded in that field. As we will see, Timelapse includes facilities for inspecting the metadata of a typical image, associating metadata fields of interest with data fields of your choosing, and finally having Timelapse populate those data fields with the metadata values found in each file.

Populate Temperature and Sequence data fields with metadata

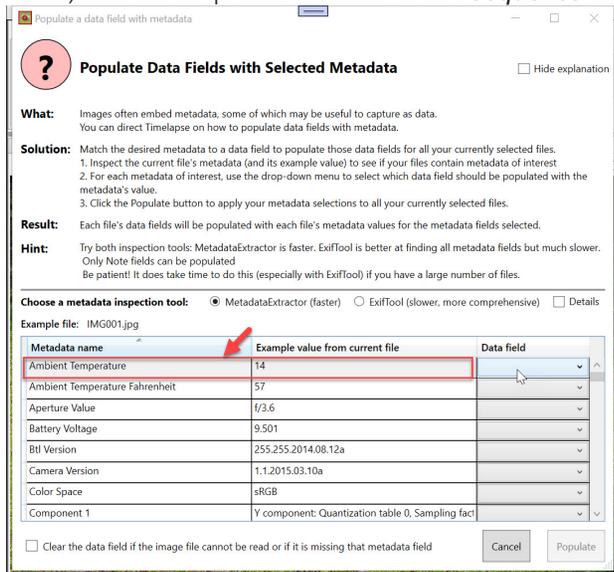
For the next step, you will populate two fields with each file's metadata.

- Go back to the first image. You'll notice that this image displays various information about itself in the black banner at the top of the page:
 - » date and time (which Timelapse extracted to its DateTime data field),
 - » temperature at the time the image was taken (57°F),
 - » phase of the moon (the partially filled in circle),
 - » that it was motion triggered (the M), and
 - » the sequence number (1/3).

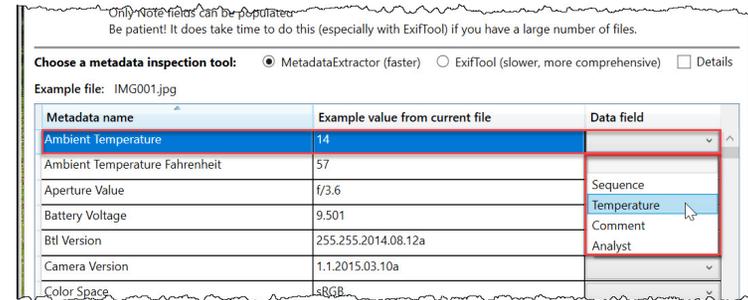
Of these, you would like to record the temperature and the sequence number in your *Temperature* and *Sequence* data fields.



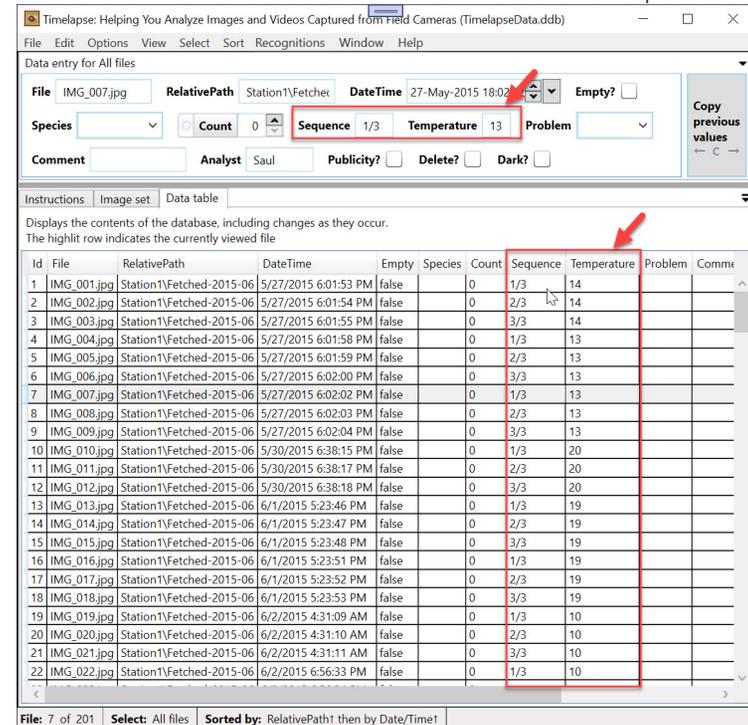
- Inspect a typical file to see what metadata was actually recorded. Select *Edit | Populate one or more fields with metadata...* A dialog box appears allowing you to inspect the metadata included in the current file. We see temperature (°F and °C) recorded in two *Ambient Temperature* metadata fields, and the sequence number in the *Sequence* metadata field.



- Associate that metadata with a Timelapse data field. Using the drop-down menu in the *Data field* column, link:
 - » *Ambient Temperature* metadata to the *Temperature* data field
 - » *Sequence* metadata to the *Sequence* data field.



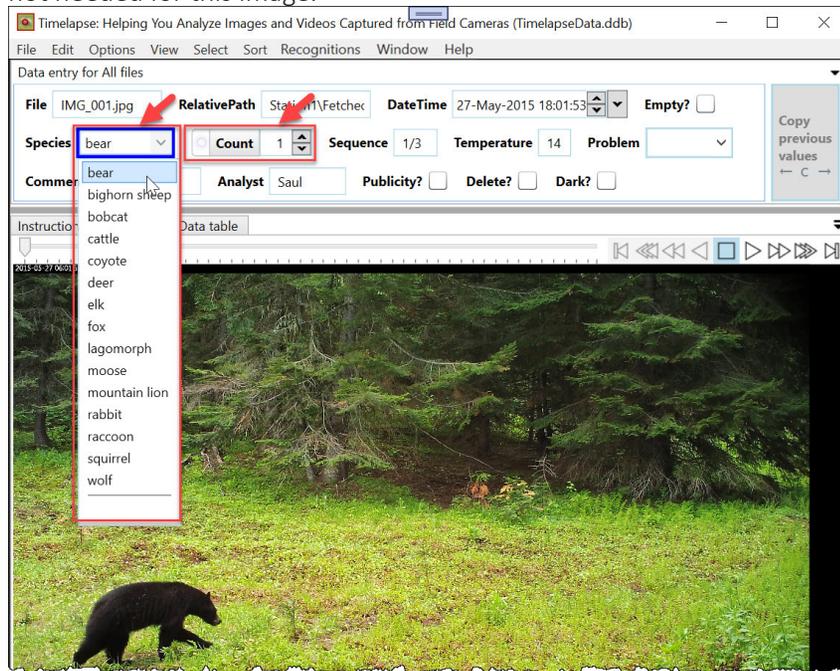
- Click *Populate*. The dialog will then provide feedback. All files that have those metadata fields will be updated with the file's metadata values.
- The *Temperature* and *Sequence* data fields in the data entry panel will now display the extracted metadata values for the current file. Similarly, those columns in the data table will show each file's updated values.



Step 4. Inspect each file to fill in the remaining fields

You will now have to visually inspect each file to fill in the remaining data fields as needed. You can, of course, do this by manually selecting and adding data to the appropriate fields.

1. Tag the remaining fields for the first image. As there is a single bear visible in this image, set *Species* to *bear* using its drop-down menu, and increment *Count* to 1. The other empty fields can be ignored as they are not needed for this image.

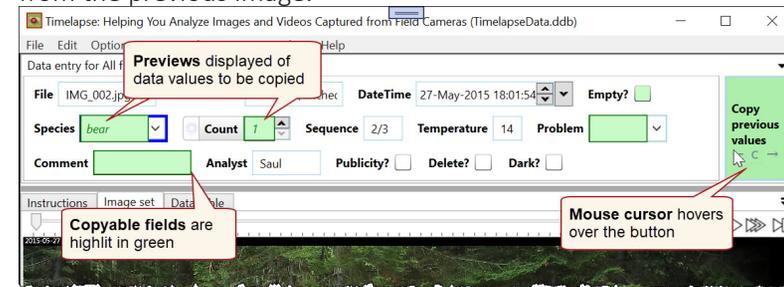


While you can repeat this process for all remaining images, the next few sections highlight shortcuts that make this file by file task much easier and efficient.

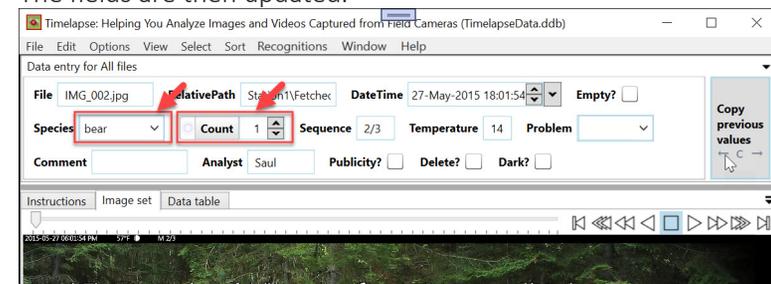
The Copy Previous Values button

Camera trap images often produce long sequential runs of similar images, where an analyst would repetitively tag each image with identical values. The *Copy previous values* button located on the right side of the data entry panel offers one way to make repetitive data entry more efficient. Use this button to selectively copy data values from the previous to the current image. The template's *Copyable* checkbox determines which data fields are copied over.

1. Go to the next image IMG_002.jpg using the keyboard right-arrow key. This image is highly similar to the preceding image, as it contains the same single bear.
2. Hover over the *Copy previous values* button. The fields that will be copied are colored in green, along with a preview of the values to be copied over from the previous image.



3. If the preview is what you want, click the button to copy those values. The fields are then updated.

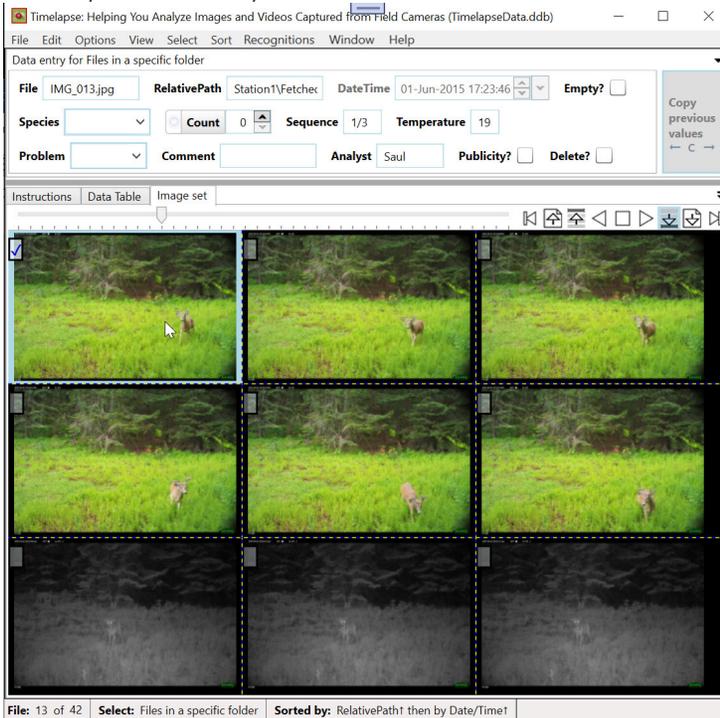


4. Do the same with the next seven images (IMG_003.jpg- IMG0009.JPG), as they would also be tagged with the same data.
5. The next three images are empty. For the first image, click the *Empty* checkbox and select 'wind triggered' from the *Problem* menu. Then use the *Copy previous value button* to tag the other two images.

Using the Overview to Tag Multiple files

The *Overview*, introduced earlier in this guide, is useful for inspecting and tagging multiple images simultaneously. It is especially efficient if what you are looking for is clearly visible in these smaller images.

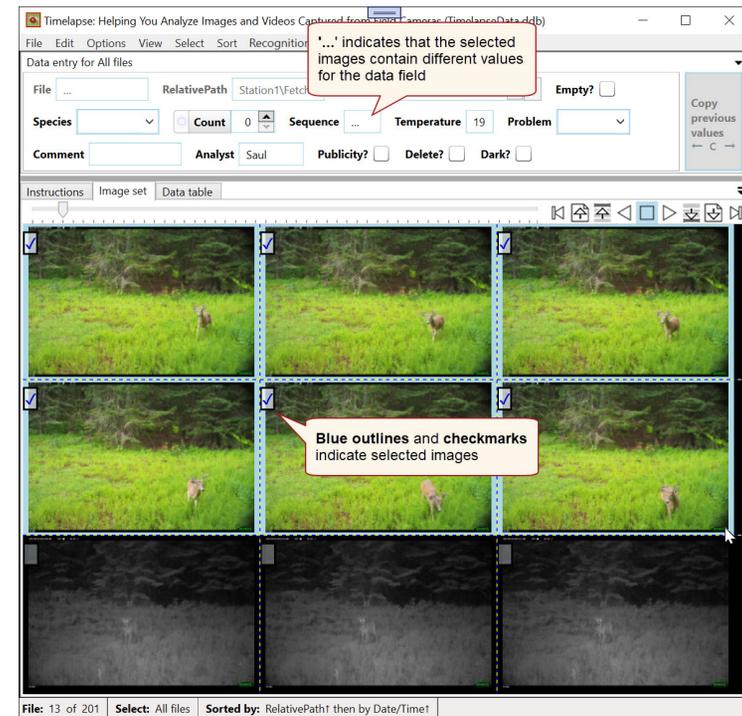
1. Go to the next image, IMG_013.jpg, which contains a deer in it. Use the scroll wheel or the < Key on the keyboard to zoom out to the overview. The Data Entry panel currently shows the values of the first image. The checkmark and the blue border around the first images denotes that it is the only one currently selected.



Note. Multiple selection of images in the overview follows the standard Windows multiple select mechanisms.

- *Clicking an image* selects that image, and unselects all others.
- *Dragging* selects the image sequence dragged over.
- *<Shift> click* extends the selection to the clicked on image.
- *<Control> click* selects/unselects an image without affecting others.

2. The first six images all contain one deer. Select those images by dragging the cursor from the first to the sixth image.
 - » The six selected items are now checkmarked and bordered in blue.
 - » If the data field for all selected images contain the same value, that value will be displayed. Otherwise, an ellipsis ... is displayed indicating that the values differ across image.



3. Set *Species* to deer, and *Count* to 1. All selected images will be updated. You can check this (as usual) by switching to the Data Table tab.

File	RelativePath	Station1\Fetcher	DateTime	Temperature	Problem	Species	Count	Sequence	Temperature	Problem	Comment	Analyst	Publicity?	Delete?	Dark?
11 IMG_011.jpg	Station1\Fetcher	Practice	30-May-2015 18:38:17	Ok	true		0	2/3	20	wir					
12 IMG_012.jpg	Station1\Fetcher	Practice	30-May-2015 18:38:18	Ok	true		0	3/3	20	wir					
13 IMG_013.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:46	Ok	false	deer	1	1/3	19						
14 IMG_014.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:47	Ok	false	deer	1	2/3	19						
15 IMG_015.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:48	Ok	false	deer	1	3/3	19						
16 IMG_016.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:51	Ok	false	deer	1	1/3	19						
17 IMG_017.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:52	Ok	false	deer	1	2/3	19						
18 IMG_018.jpg	Station1\Fetcher	Practice	01-Jun-2015 17:23:53	Ok	false	deer	1	3/3	19						
19 IMG_019.jpg	Station1\Fetcher	Practice	02-Jun-2015 04:31:09	Ok	false		0	1/3	10						

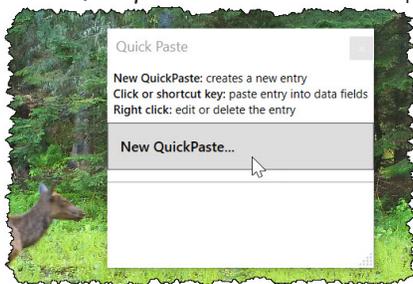
4. Use the controls on the File Player to scroll over those two rows. The next three images contain two deer in them, but if you aren't sure, double click the first one to display that image in full size. Tag those three by whatever means you wish.

QuickPaste

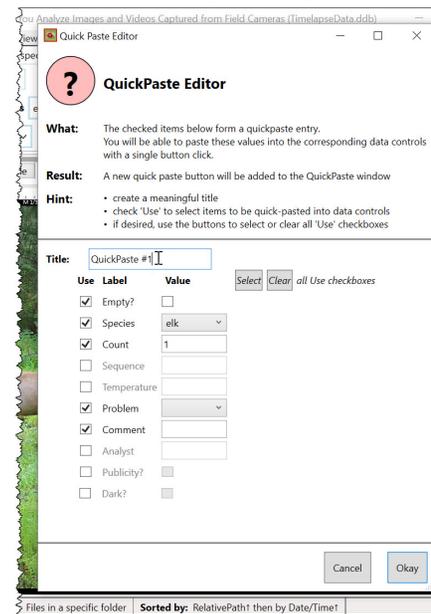
When tagging images, you will often notice that certain patterns may frequently occur, where the same tags are entered over and over again. While the two previous shortcuts help over sequential runs of similar images, you would still have to re-enter tags when that run changes to an image with a different pattern. For example, consider the case where you just tagged 3 images containing 1 deer, then 6 images with two elk. The next image now contains a single deer. Because the tags would differ from the prior elk image (*Species* = elk, *Count* = 2), you would have to manually enter the tags *Species* = deer, *Count* = 1. This introduces inefficiencies when tagging a very large image set.

Timelapse includes a facility called *Quickpaste* to help. Quickpaste lets you define a set of *Quickpaste entries*, where each entry describes what data fields to use and their tagging values (e.g., *Species* = deer, *Count* = 1). Each entry is then presented as a *Quickpaste button*. Selecting that button pastes those tag values in the corresponding data field. That is, a single button click replaces you having to manually fill in multiple data fields.

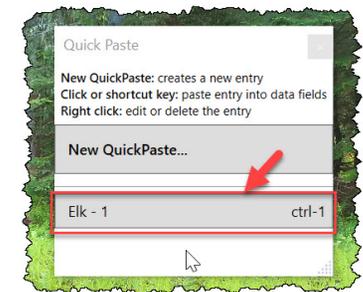
1. Determine tagging patterns. You can do this as you preview your images, or as you are tagging them. Since our practice image set is small, let's assume you noticed the following common tagging patterns.
 - » *Empty* = checked, *Problem* = wind triggered
 - » *Species* = deer, *Count* = 1
 - » *Species* = elk, *Count* = 1
 - » *Species* = bear, *Count* = 1
2. Go to the next image (IMG_022.jpg), which contains a single elk in it.
3. Tag the image with *Species* = elk, *Count* = 1.
4. Select *Edit / Show Quickpaste Window* (or the keyboard shortcut Q). The main *Quickpaste window* should appear.



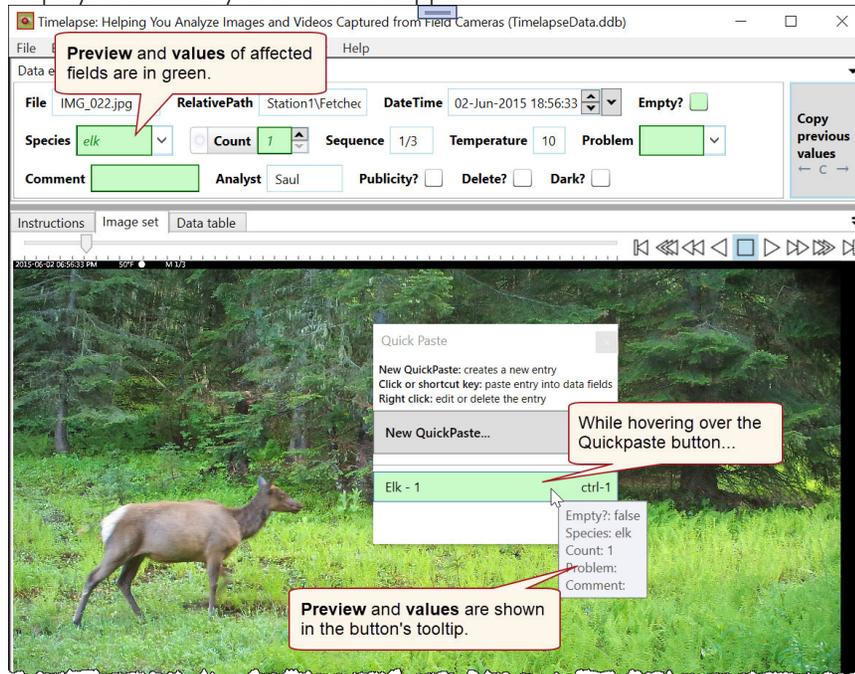
5. Click the *New QuickPaste...* button. This raises the *QuickPaste Editor*, which will allow you to define a *Quickpaste entry*. You may notice that:
 - » all custom data fields are displayed
 - » *Value* fields are populated by the tags set in the current image,
 - » The *Use* checked state defaults to each data field's *Copyable* status as set in the Timelapse template.



6. Edit the entries as needed.
 - a. Edit the *Title* to a meaningful label. For example "Elk- 1".
 - b. Accept the other settings. They are appropriate, as:
 - » *Species* and *Count* values should be 'elk' and '1' respectively;
 - » *Empty*, *Problem*, and *Comment* values should be cleared;
 - » *Use* for the other data fields should be unchecked, as we don't want to over-write their values.
7. Select *Okay*. The Quickpaste Window will now show the newly created Quickpaste entry.

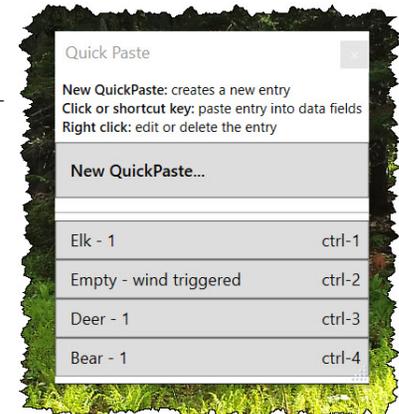


- Go to the next image, which also contains an elk. When you hover your mouse cursor over the Elk-1 Quickpaste button, you will see a preview of which fields will be affected and their values. The Button's tooltip also displays a summary of what will happen.



- When you click the Elk-1 button, the fields will be updated.
- Tag the next 8 images using the Elk- 1 Quickpaste button. You can do this in two ways:
 - » by navigate to each elk image and pressing the Elk- 1 button;
 - » by zooming out to the Overview, selecting the elk images, and tagging all of them at once by pressing the Elk- 1 button.
- The next image, IMG_034.jpg, should be empty. Tag that image by checking the *Empty* checkbox, and setting *Problem* to 'wind-triggered'. Create a Quickpaste entry titled 'Empty- wind triggered' the way you did before.

- While we are at it, create new entries for Empty images, Deer- 1 and Bear - 1. In this case, you can just edit the appropriate fields in the Quickpaste Editor to set the desired values. You should now have a Quickpaste window displaying four tagging patterns.
- Navigate and tag the remaining images in this image set using the Quickpaste buttons. Feel free to set *Publicity?* for great shots, or to add your thoughts to *Comments* as desired.



- When you are done, take a look at the data table, which is now filled in with all desired tags for the Station1\Fetched-2015-06 folder.

ID	File	RelativePath	DateTime	Empty	Species	Count	Sequence	Temperature	Problem	Comment	Analyst	Publicity	DeleteFlag	Dark
1	IMG_001.jpg	Station1\Fetched-2015-06	5/27/2015 6:01:53 PM	false	bear	1	1/3	14			Saul	false	false	false
2	IMG_002.jpg	Station1\Fetched-2015-06	5/27/2015 6:01:54 PM	false	bear	1	2/3	14			Saul	false	false	false
3	IMG_003.jpg	Station1\Fetched-2015-06	5/27/2015 6:01:55 PM	false	bear	1	3/3	14			Saul	false	false	false
4	IMG_004.jpg	Station1\Fetched-2015-06	5/27/2015 6:01:58 PM	false	bear	1	1/3	13			Saul	false	false	false
5	IMG_005.jpg	Station1\Fetched-2015-06	5/27/2015 6:01:59 PM	false	bear	1	2/3	13			Saul	false	false	false
6	IMG_006.jpg	Station1\Fetched-2015-06	5/27/2015 6:02:00 PM	false	bear	1	3/3	13			Saul	false	false	false
7	IMG_007.jpg	Station1\Fetched-2015-06	5/27/2015 6:02:02 PM	false	bear	1	1/3	13			Saul	false	false	false
8	IMG_008.jpg	Station1\Fetched-2015-06	5/27/2015 6:02:03 PM	false	bear	1	2/3	13			Saul	false	false	false
9	IMG_009.jpg	Station1\Fetched-2015-06	5/27/2015 6:02:04 PM	false		0	3/3	13			Saul	false	false	false
10	IMG_010.jpg	Station1\Fetched-2015-06	5/30/2015 6:38:15 PM	true		0	1/3	20	wind triggered		Saul	false	false	false
11	IMG_011.jpg	Station1\Fetched-2015-06	5/30/2015 6:38:17 PM	true	bear	0	2/3	20	wind triggered		Saul	false	false	false
12	IMG_012.jpg	Station1\Fetched-2015-06	5/30/2015 6:38:18 PM	true	bear	0	3/3	20	wind triggered		Saul	false	false	false
13	IMG_013.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:46 PM	false		0	1/3	19			Saul	false	false	false
14	IMG_014.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:47 PM	false		0	2/3	19			Saul	false	false	false
15	IMG_015.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:48 PM	false		0	3/3	19			Saul	false	false	false
16	IMG_016.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:51 PM	false		0	1/3	19			Saul	false	false	false
17	IMG_017.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:52 PM	false		0	2/3	19			Saul	false	false	false
18	IMG_018.jpg	Station1\Fetched-2015-06	6/1/2015 5:23:53 PM	false		0	3/3	19			Saul	false	false	false
19	IMG_019.jpg	Station1\Fetched-2015-06	6/2/2015 4:31:09 AM	false	deer	2	1/3	10			Saul	false	false	false
20	IMG_020.jpg	Station1\Fetched-2015-06	6/2/2015 4:31:10 AM	false	deer	2	2/3	10			Saul	false	false	false
21	IMG_021.jpg	Station1\Fetched-2015-06	6/2/2015 4:31:11 AM	false	deer	2	3/3	10			Saul	false	false	false
22	IMG_022.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:33 PM	false	elk	1	1/3	10			Saul	false	false	false
23	IMG_023.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:34 PM	false	elk	1	2/3	10			Saul	false	false	false
24	IMG_024.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:35 PM	false	elk	1	3/3	10			Saul	false	false	false
25	IMG_025.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:37 PM	false	elk	1	1/3	10			Saul	false	false	false
26	IMG_026.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:38 PM	false	elk	1	2/3	10			Saul	false	false	false
27	IMG_027.jpg	Station1\Fetched-2015-06	6/2/2015 4:56:39 PM	false	elk	1	3/3	10			Saul	false	false	false
28	IMG_028.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:44 AM	false	elk	1	1/3	15			Saul	false	false	false
29	IMG_029.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:45 AM	false	elk	1	2/3	15			Saul	false	false	false
30	IMG_030.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:46 AM	false	elk	1	3/3	15			Saul	false	false	false
31	IMG_031.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:49 AM	false	elk	1	1/3	15			Saul	false	false	false
32	IMG_032.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:50 AM	false	elk	1	2/3	15			Saul	false	false	false
33	IMG_033.jpg	Station1\Fetched-2015-06	6/4/2015 7:41:51 AM	false	elk	1	3/3	15			Saul	false	false	false
34	IMG_034.jpg	Station1\Fetched-2015-06	6/4/2015 3:37:13 PM	true		0	1/3	19	wind triggered		Saul	false	false	false
35	IMG_035.jpg	Station1\Fetched-2015-06	6/4/2015 3:37:14 PM	true		0	2/3	19	wind triggered		Saul	false	false	false
36	IMG_036.jpg	Station1\Fetched-2015-06	6/4/2015 3:37:15 PM	true		0	3/3	19	wind triggered		Saul	false	false	false
37	IMG_037.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:47 PM	false	bear	1	1/3	20			Saul	false	false	false
38	IMG_038.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:48 PM	false	bear	1	2/3	20			Saul	false	false	false
39	IMG_039.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:49 PM	false	bear	1	3/3	20		Nice shot of Bear in field	Saul	true	false	false
40	IMG_040.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:52 PM	false	bear	1	1/3	20			Saul	false	false	false
41	IMG_041.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:53 PM	false	bear	1	2/3	20			Saul	false	false	false
42	IMG_042.jpg	Station1\Fetched-2015-06	6/16/2015 7:27:54 PM	false	bear	1	3/3	20			Saul	false	false	false

Exporting your Data

Now that you have finished tagging that folder, you may be wondering how to get that data out of Timelapse for further processing (e.g. by a statistics package).

There are two ways.

- Export your data to a *CSV (comma-separated value) file*, a standard data file format that can then be opened by myriads of software. Examples include spreadsheet packages such as *Excel*, or the *R* statistical software package. This is what most Timelapse users do.
- If you are database-savvy, you can just access the database directly. Another Timelapse manual, available on the [web site's manual page](#), describes the Timelapse database structure.

Exporting data to a CSV file is easy. To illustrate, let's export only the data you just tagged for the files in the *Station1\Fetched-2015-06* folder.

1. If needed, open the *Select* menu, choose *All files in a folder and its subfolders...* and select *Station1/Fetched-2015-06*.
2. Select *File | Export the data in the current selection as a CSV file and preview in Excel...*
3. When asked, save the file to a location of your choosing. Excel should then open that file. You can now use any of the standard Excel facilities on that file.

Note. If you don't have Excel, you can choose *File | Export the data in the current selection as a CSV file...* and then open the exported file in a package of your choosing.

There are several other important features related to CSV files that are described in the full manual. For example:

- Choose which data fields to export. The Timelapse Template editor includes an *Export* checkbox for each data field. Only those data fields that are checked will be exported as columns in the CSV file.
- Export various *Date* and *Time* fields in various formats. Formats can be specified in the Timelapse Preferences dialog via *Options | Preferences*.
- Import data from a CSV file into Timelapse (albeit with some restrictions).

RootFolder	File	RelativePath	DateTime	Empty	Species	Count	Sequence	Temperature	Problem	Comment	Analyst	Publicity
	PracticlemageSet IMG_001.jpg	Station1\Fetched-2015-06	2015-05-27 18:01:53	FALSE	bear	1	03-Jan	14			Saul	FALSE
	PracticlemageSet IMG_002.jpg	Station1\Fetched-2015-06	2015-05-27 18:01:54	FALSE	bear	1	03-Feb	14			Saul	FALSE
	PracticlemageSet IMG_003.jpg	Station1\Fetched-2015-06	2015-05-27 18:01:55	FALSE	bear	1	03-Mar	14			Saul	FALSE
	PracticlemageSet IMG_004.jpg	Station1\Fetched-2015-06	2015-05-27 18:01:58	FALSE	bear	1	03-Jan	13			Saul	FALSE
	PracticlemageSet IMG_005.jpg	Station1\Fetched-2015-06	2015-05-27 18:01:59	FALSE	bear	1	03-Feb	13			Saul	FALSE
	PracticlemageSet IMG_006.jpg	Station1\Fetched-2015-06	2015-05-27 18:02:00	FALSE	bear	1	03-Mar	13			Saul	FALSE
	PracticlemageSet IMG_007.jpg	Station1\Fetched-2015-06	2015-05-27 18:02:02	FALSE	bear	1	03-Jan	13			Saul	FALSE
	PracticlemageSet IMG_008.jpg	Station1\Fetched-2015-06	2015-05-27 18:02:03	FALSE	bear	1	03-Feb	13			Saul	FALSE
	PracticlemageSet IMG_009.jpg	Station1\Fetched-2015-06	2015-05-27 18:02:04	FALSE	bear	0	03-Mar	13			Saul	FALSE
	PracticlemageSet IMG_010.jpg	Station1\Fetched-2015-06	2015-05-30 18:38:15	TRUE	bear	0	03-Jan	20	wind triggered		Saul	FALSE
	PracticlemageSet IMG_011.jpg	Station1\Fetched-2015-06	2015-05-30 18:38:17	TRUE	bear	0	03-Feb	20	wind triggered		Saul	FALSE
	PracticlemageSet IMG_012.jpg	Station1\Fetched-2015-06	2015-05-30 18:38:18	TRUE	bear	0	03-Mar	20	wind triggered		Saul	FALSE
	PracticlemageSet IMG_013.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:46	FALSE	elk	1	03-Jan	19			Saul	FALSE
	PracticlemageSet IMG_014.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:47	FALSE	elk	0	03-Feb	19			Saul	FALSE
	PracticlemageSet IMG_015.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:48	FALSE	elk	0	03-Mar	19			Saul	FALSE
	PracticlemageSet IMG_016.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:51	FALSE	elk	0	03-Jan	19			Saul	FALSE
	PracticlemageSet IMG_017.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:52	FALSE	elk	0	03-Feb	19			Saul	FALSE
	PracticlemageSet IMG_018.jpg	Station1\Fetched-2015-06	2015-06-01 17:23:53	FALSE	elk	0	03-Mar	19			Saul	FALSE
	PracticlemageSet IMG_019.jpg	Station1\Fetched-2015-06	2015-06-02 04:31:09	FALSE	deer	2	03-Jan	10			Saul	FALSE
	PracticlemageSet IMG_020.jpg	Station1\Fetched-2015-06	2015-06-02 04:31:10	FALSE	deer	2	03-Feb	10			Saul	FALSE
	PracticlemageSet IMG_021.jpg	Station1\Fetched-2015-06	2015-06-02 04:31:11	FALSE	deer	2	03-Mar	10			Saul	FALSE
	PracticlemageSet IMG_022.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:33	FALSE	elk	1	03-Jan	10			Saul	FALSE
	PracticlemageSet IMG_023.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:34	FALSE	elk	1	03-Feb	10			Saul	FALSE
	PracticlemageSet IMG_024.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:35	FALSE	elk	1	03-Mar	10			Saul	FALSE
	PracticlemageSet IMG_025.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:37	FALSE	elk	1	03-Jan	10			Saul	FALSE
	PracticlemageSet IMG_026.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:38	FALSE	elk	1	03-Feb	10			Saul	FALSE
	PracticlemageSet IMG_027.jpg	Station1\Fetched-2015-06	2015-06-02 18:56:39	FALSE	elk	1	03-Mar	10			Saul	FALSE
	PracticlemageSet IMG_028.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:44	FALSE	elk	1	03-Jan	15			Saul	FALSE
	PracticlemageSet IMG_029.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:45	FALSE	elk	1	03-Feb	15			Saul	FALSE
	PracticlemageSet IMG_030.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:46	FALSE	elk	1	03-Mar	15			Saul	FALSE
	PracticlemageSet IMG_031.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:49	FALSE	elk	1	03-Jan	15			Saul	FALSE
	PracticlemageSet IMG_032.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:50	FALSE	elk	1	03-Feb	15			Saul	FALSE
	PracticlemageSet IMG_033.jpg	Station1\Fetched-2015-06	2015-06-04 07:41:51	FALSE	elk	1	03-Mar	15			Saul	FALSE
	PracticlemageSet IMG_034.jpg	Station1\Fetched-2015-06	2015-06-04 15:37:13	TRUE	bear	0	03-Jan	19	wind triggered		Saul	FALSE
	PracticlemageSet IMG_035.jpg	Station1\Fetched-2015-06	2015-06-04 15:37:14	TRUE	bear	0	03-Feb	19	wind triggered		Saul	FALSE
	PracticlemageSet IMG_036.jpg	Station1\Fetched-2015-06	2015-06-04 15:37:15	TRUE	bear	0	03-Mar	19	wind triggered		Saul	FALSE
	PracticlemageSet IMG_037.jpg	Station1\Fetched-2015-06	2015-06-16 19:27:47	FALSE	bear	1	03-Jan	20			Saul	FALSE
	PracticlemageSet IMG_038.jpg	Station1\Fetched-2015-06	2015-06-16 19:27:48	FALSE	bear	1	03-Feb	20			Saul	FALSE
	PracticlemageSet IMG_039.jpg	Station1\Fetched-2015-06	2015-06-16 19:27:49	FALSE	bear	1	03-Mar	20		Nice shot of Bear in field	Saul	TRUE
	PracticlemageSet IMG_040.jpg	Station1\Fetched-2015-06	2015-06-16 19:27:52	FALSE	bear	1	03-Jan	20			Saul	FALSE
	PracticlemageSet IMG_041.jpg	Station1\Fetched-2015-06	2015-06-16 19:27:53	FALSE	bear	1	03-Feb	20			Saul	FALSE

Why is Sequence data appearing as dates? Excel, when opening a CSV file, examines each field to determine its type. This leads to issues when your data resembles Excel's many *Date* formats. For example the *Sequence* column data, populated from metadata, has text looking something like *1/3*. Excel interprets and translates this into a date e.g., *03-Mar*.

Different methods solve this, albeit each requires a few extra steps.

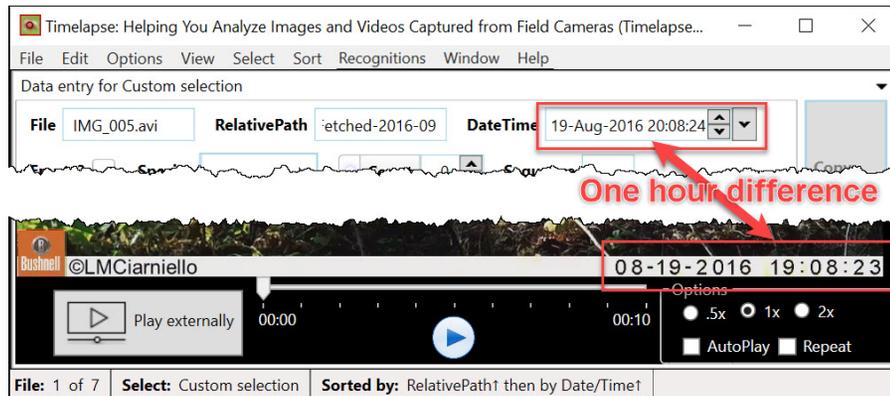
- Import the file using Excel's *Data | From Text/CSV*, which will display options for handling a particular column's data.
- Change the file's *.csv* suffix to *.txt* and open it in Excel as a text file. Again, column data-handling options will be displayed.
- Insert a leading space in front of each data field, which tells Excel to interpret the data as plain text. This is why the *Options | Preferences | DateTime* panel gives you that option. However, it is not a good solution for the Sequence data as you would have to change each field.

Various web pages detail how to do each of the above (e.g., [see this link](#)).

Correcting Date and Time Errors

Date and time errors are fairly common, for example, when camera traps are initially set to the wrong date or time, or don't account for daylight saving time changes. Timelapse includes various facilities to correct common date/time errors, found under the *Edit | Date correction...* menu.

To illustrate, the *Station4\Fetched-2016-09* folder contains 7 videos. Due to a camera malfunction, all video files are off by one hour, where the date/time extracted from the metadata and recorded in the *DateTime* field is one hour ahead of the correct date/time embedded in the video's banner.



As there are only 7 files affected, these could be corrected simply by editing each file's hour field in the date/time in the *DateTime* control. If more files were affected, a better option would be to choose the *Edit | Date correction Correct for cameras not set to the right date and time...* dialog.

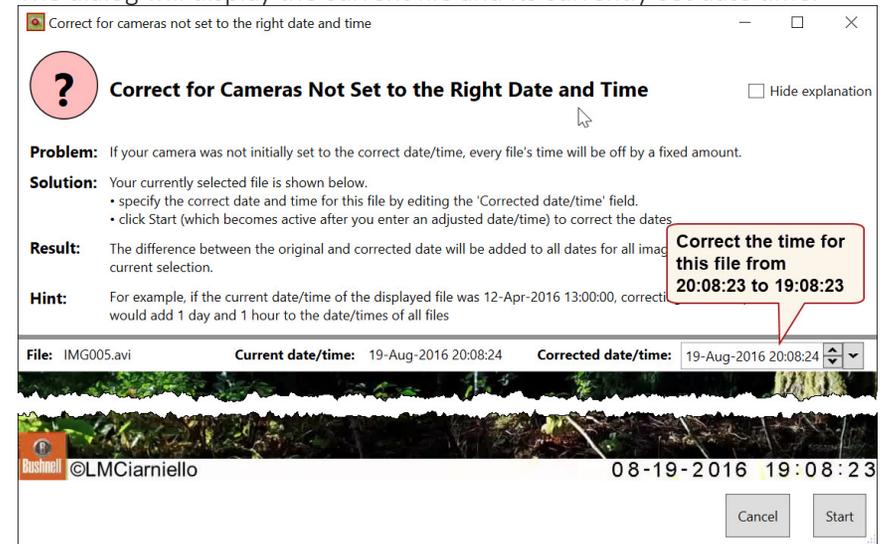
1. Narrow the current file selection to display only the video files. This is easily done by going to *Select | Custom Selection*. Select and set:
 - » *RelativePath* = *Station4\Fetched-2016-09*,
 - » *File GLOB* *.avi.

Note: GLOB is a pattern matching operation, where * matches any combination of characters.

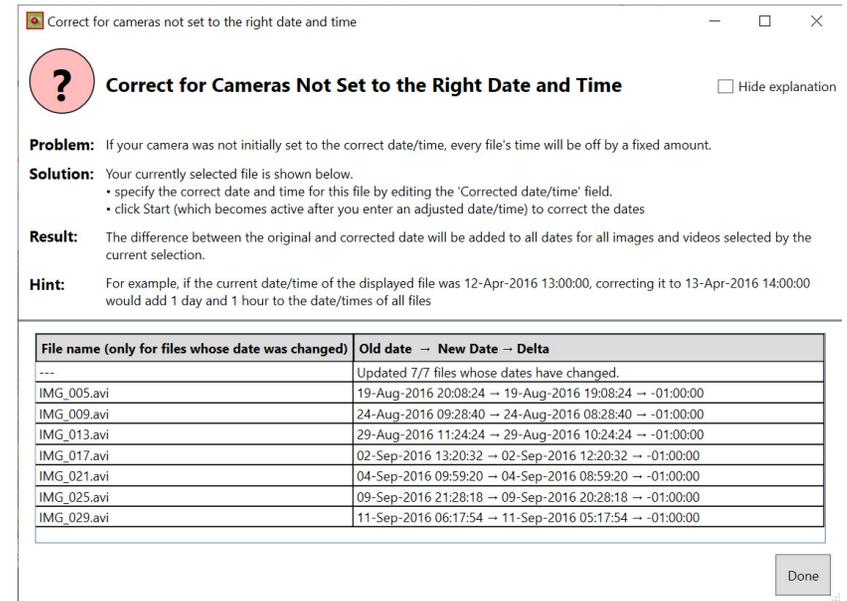


Timelapse should now be displaying only those files within the *Station4\Fetched-2016-09* whose name match an *.avi* suffix (i.e., the video files).

2. Raise the *Correct for cameras not set to the right date and time...* dialog. The dialog will display the current file and its currently-set date time.



3. Correct the date/time for that file by editing the *Corrected date/time* field. Then hit *Start*. Timelapse calculates the difference between the old and new time (in this case one hour) from your example, and applies that difference to correct all currently selected files. The dialog provides feedback on what was done to each file.



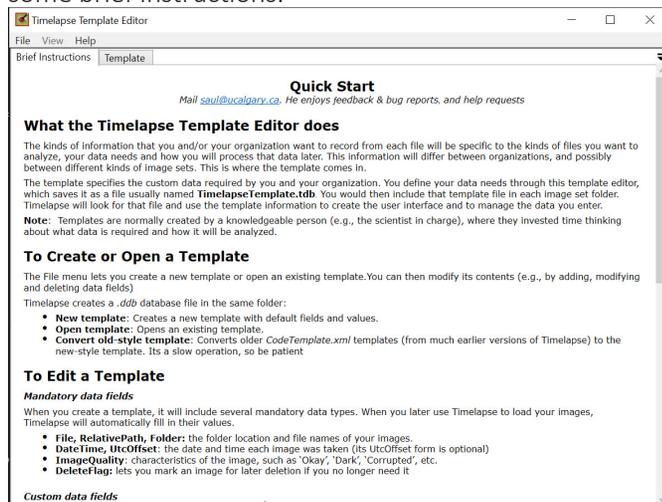
Creating your own Custom Template

In the previous exercise, you used the pre-defined template located in the *PracticeImageSet* folder: a file named *TimelapseTemplate.tdb*. That template defined the data fields of interest for tagging, and how those fields should appear in the Timelapse interface.

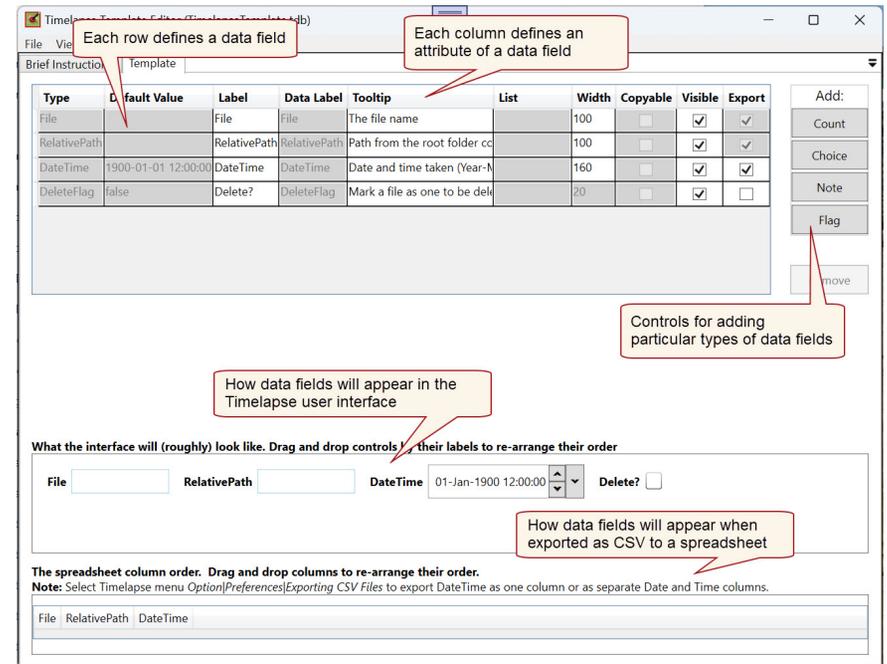
As your own project may have quite different data needs, you can easily create your own template with the *Timelapse Template Editor*. For example, your project may be concerned with counts of only certain predacious species: bears, bobcats, coyotes, and wolves. Other species, such as herbivores, are ignored. You are also interested in the ground cover, especially if there is snow on it. Your desired tag fields could be summarized as follows

Data label	Data type	Default value	Choice items
File	File	system-supplied	
RelativePath	RelativePath	system-supplied	
DateTime	DateTime	system-supplied	
Bear	Count	0	
Bobcat	Count	0	
Coyote	Count	0	
Wolf	Count	0	
Ground cover	Choice	unknown	unknown, bare, partial snow, snow covered

- To follow along, copy the *Fetchd-2015-09* folder, currently located in the *Station1* folder, to a convenient location such as your desktop.
- Start the *TimelapseTemplateEditor*, which will display a window with some brief instructions.



- Create a new template. Select *File | New template...*, navigate to your *Fetchd-2015-09* folder and click *Save*. A new template will be created in that folder titled *TimelapseTemplate.tdb*.
- The Template Editor window will appear as illustrated below. It contains four main areas.
 - Data field specification area* (top). Each row in this area specifies a single data field item and its attributes. This area also displays several fields required by Timelapse. The white areas are editable, while the grayed out areas are not.
 - Data field appearance within Timelapse* (lower middle) shows how the data will be displayed as fields in the Timelapse user interface. You can drag those fields around to re-arrange their order
 - Data columns in spreadsheet* (bottom) roughly shows how the data will be displayed as columns in the exported CSV file/spreadsheet. You can also drag those columns around to re-arrange their order.
 - Row addition/deletion controls* (right) are buttons that let you add or remove particular types of rows into the table.



8. Two of the data tags you want, *File* and *DateTime*, are already provided as part of Timelapse's required fields, so you can just leave them as is.
9. Create 5 data rows for the other controls.
 - a. Add 4 *Count* rows to define the *Bear*, *Bobcat*, *Coyote*, and *Wolf* fields.
 - b. Add 1 *Choice* row to define the *Ground cover* field.
 - c. Fill them in as shown below (don't forget the checkmarks!).
 - d. For *Ground cover*, select the *Define List* button, and fill in the list items in the popup window that appears. These will appear when using Timelapse within that field's drop-down menu. Then set that field's default value to unknown (default values for choices must match a list item).

The screenshot shows the 'Timelapse Template Editor' window. It contains a table with the following columns: Type, Default Value, Label, Data Label, Tooltip, List, Width, Copyable, Visible, and Export. The table lists fields like File, RelativePath, DateTime, DeleteFlag, and Counters for Bear, Bobcat, Coyote, and Wolf. A 'FixedChoice' row for 'Ground cover' is highlighted, with a 'Define List' button next to it. A dialog box titled 'Define choice menu, with 1 item per line' is open, showing a list of items: 'unknown', 'bare', 'partial snow', and 'snow covered'. The 'Ground cover' field in the main window is set to 'unknown'.

Type	Default Value	Label	Data Label	Tooltip	List	Width	Copyable	Visible	Export
File		File	File	The file name		100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
RelativePath		RelativePath	RelativePath	Path from the root folder		100	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DateTime	1900-01-01 12:00:00	DateTime	DateTime	Date and time taken (Year		160	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DeleteFlag	false	Delete?	DeleteFlag	Mark a file as one to be de		20	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Counter	0	Bear	Bear	# Bears, if any		30	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Counter	0	Bobcat	Bobcat	# Bobcats, if any		30	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Counter	0	Coyote	Coyote	# Coyotes, if any		30	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Counter	0	Wolf	Wolf	# Wolves, if any		30	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FixedChoice	unknown	Ground cover	GroundCover	Bare ground to snow	Define List	100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

10. While the meaning of most things should be apparent, a few columns may need explaining.
 - » *Data label* is the name of the database column that will hold the data, while *Label* is how that field will be labeled in the user interface. The *Data label* is used as the column name when data is exported to a CSV file.
 - » *Width* is the width of the field.
 - » *Copyable* defines whether that field is affected by the *Copy*

previous values button.

- » *Visible* determines whether the control should be visible in the Timelapse interface.
- » *Export* determines whether the data field and its values should be included in the CSV file when *File | Export data to CSV file...* is selected within Timelapse. Also notice how the unchecked *Delete flag* is not excluded in the spreadsheet column order seen at the bottom of the template.

11. Quit the editor and start Timelapse. Using *File | Load template, images and video files...*, load the template and images in the *Fetches-2015-09* folder. The fields in the *Data Entry* panel, the columns in the *Data Table* tab, and the columns in the exported CSV file will now match the rows defined in the template.

The screenshot shows the 'Timelapse: Helping You Analyze Images and Videos Captured from Field Cameras' interface. The 'Data entry for All files' panel is visible, showing fields for File (IMG_008.jpg), DateTime (16-Jul-2015 14:34:58), and counters for Bear (0), Bobcat (0), Coyote (0), and Wolf (0). The 'Ground cover' field is a dropdown menu set to 'unknown'. A 'Copy previous values' button is on the right. Below the data entry panel is a video player showing a frame of a bear in a field. The status bar at the bottom indicates 'File: 8 of 57', 'Select: All files', and 'Sorted by: RelativePath1 then by DateTime1'.

That's it! You can now try creating your own template for processing and tagging your own images.

Beyond the Basics

This QuickStart guide illustrated only a few of the basic features of Timelapse. While it is enough to give you a sense of how the software works, Timelapse has many other important features that can help you create an effective and efficient tagging workflow. These are described in subsequent manuals and various video tutorials available on the Timelapse website, which can also be accessed through the Timelapse *Help* menu.

The partial list below provides a sense of what else is available.

- **File management** tools for adding, deleting and copying files to or from your image set on the fly.
- **Folder Editor** to let you rename and move your folders around.
- **Data manipulation** such as deleting or duplicating records.
- **Database management** including how to create a master database for large projects through merging and the ability to checkout / checkin database subsets.
- **Navigation tools** to cruise through your files by various means.
- **Importing file metadata**, where Timelapse includes several different tools for exposing and populating fields with file metadata.
- **Examining image details** through zoom and magnification tools, image adjustment tools (e.g., brightness, contrast), and image differencing to make changes between image sequences pop out.
- **Rapid data entry** through various shortcuts and tools.
- **Video player** with various controls to let you view videos efficiently.
- **Query facilities** where you can select a subset of files based on the values in your data fields.
- **Sorting**, where you can sort your files by various criteria.
- **Date correction tools** for repairing various common date and time errors.
- **Automatic dark image detection** for identifying night-time images.
- **Automatic image recognition and classification**, in conjunction

with a 3rd party image recognizer, such as the popular Microsoft Megadetector.

- **Automatic episode detection** where Timelapse identifies images as belonging together in an *episode*, i.e., a sequence of images separated by a short time duration.
- **Window management**, where you can arrange Timelapse windows and panels in different layouts to best fit your workflow and screen size.
- **Example workflows** where videos and manuals illustrate different ways of using Timelapse.
- **Details of each feature**, so you can use them effectively.