

FinPrint Annotator User Guide

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Glossary of terms

For the FinPrint project, these terms are defined as follows:

ANNOTATOR: Someone who watches video assignments and adds Observations

ANNOTATOR APPLICATION: (aka Annotator Client) The FinPrint desktop application used to annotate videos.

ASSIGNMENT: A Set with a Video which gets assigned to someone (usually an Annotator) to make Observations

BRUV: Acronym for Baited Underwater Remote Video, which is the technology used to attract and video record organisms. A BRUV Drop is synonymous with a Set.

DROP: The placement of a BRUV in a specific location on a reef.

EVENT: The identification of something in a Set video that gets recorded in the database. Each Observation is an Event itself, but can also have multiple Events associated with it (i.e. for different behaviours of the same organism.)

HABITAT: The coral benthic environment of a reef

IMAGE NOTES: Image, or Event Notes concerning a particular time. EG “Shark now attacking turtle”

LOCATION: A geographically generally correlating to a specific country (i.e. Fiji, Bahamas) or country area (i.e. US-Pacific, US-Western Atlantic) within a specific Region that contains multiple Reefs.

OBSERVATION: The identification of something in a Set video that gets recorded in the database (e.g. Animal species, Object of Interest). An Observation can have different attributes/events associated with it besides the species like an image, Behavior or Fouling state.

OBSERVATION NOTES: Typically, a note about a particular animal, regardless of the time of observation. EG “Really big shark” or “Unusual pattern on flank”. Compare with Image notes.

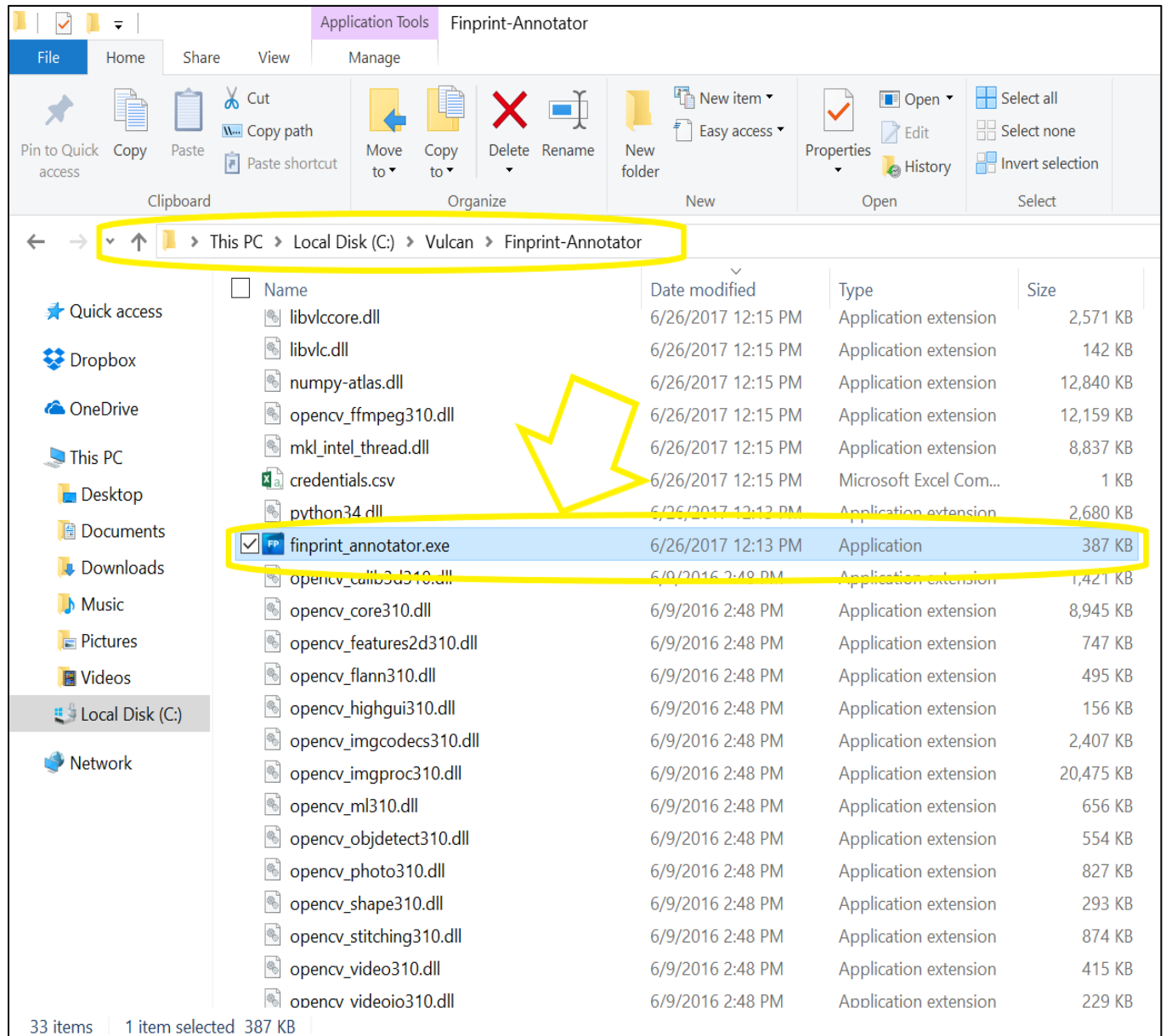
SET: A specific occurrence of a BRUV drop.

TRIP: A defined journey to a specific Reef, containing multiple BRUV SETs.

VIDEO: Digital recording, typically 60-90 minutes, for each BRUV SET. VIDEOS and SETs have a 1:1 correlation.

Getting started using the Annotator

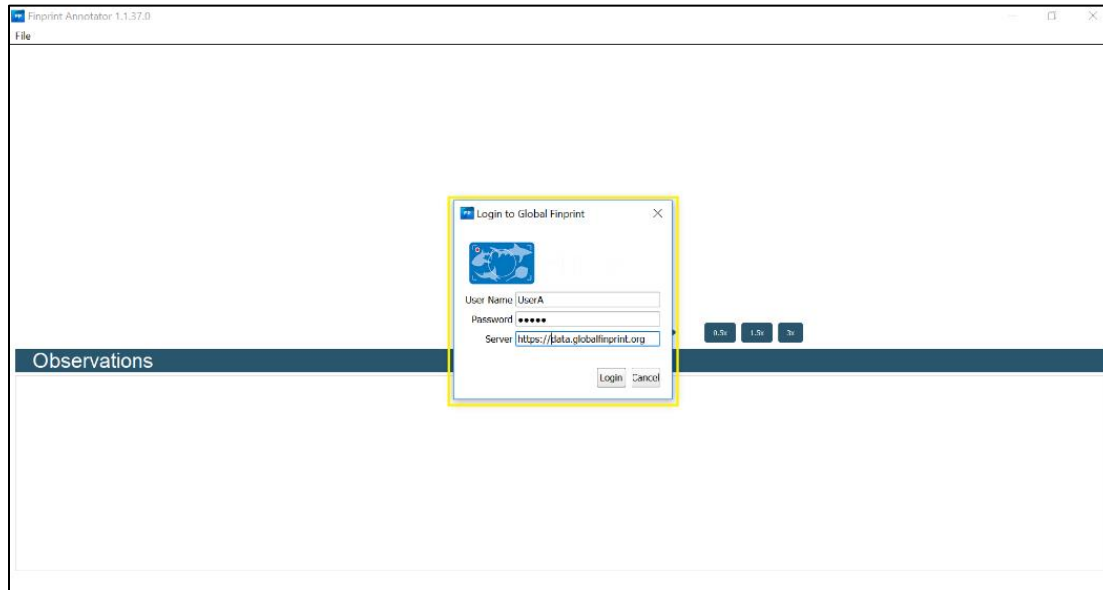
To start the Annotator, open the Vulcan folder on the computer. If you have used the default settings during installation, the path will look something like this:



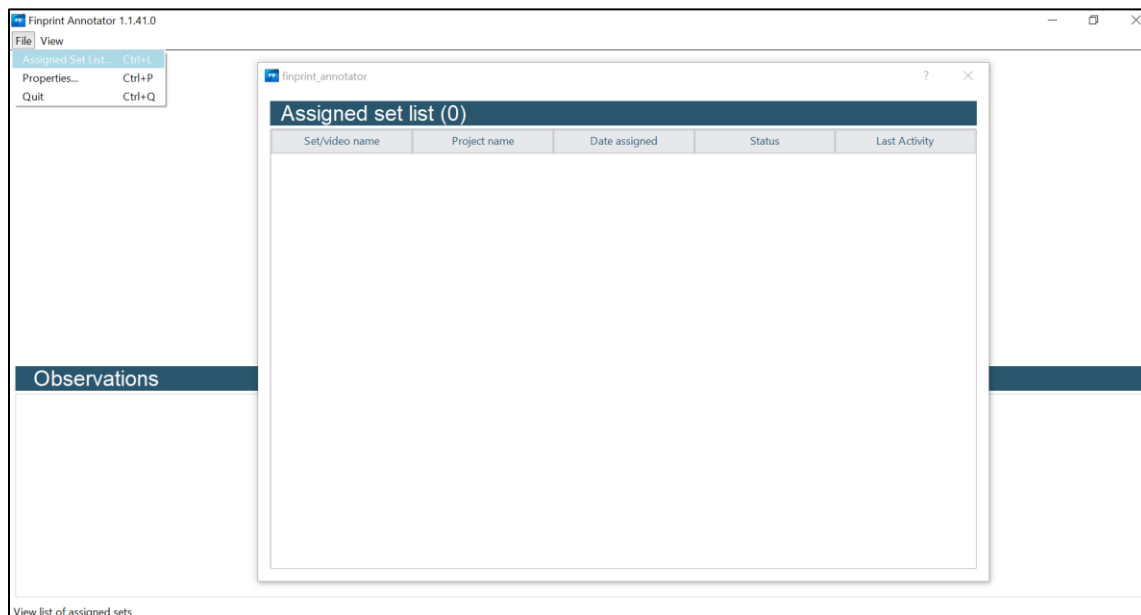
If you have a previous version of the annotator tool on your computer, be sure to uninstall that first. You can use the 'uninstall' file located in the same folder.

Double-click on the **fingerprint_annotator.exe** file (marked, above) to launch the application.

Enter your login credentials in the highlighted area. Note that both the User Name and Password are case sensitive.



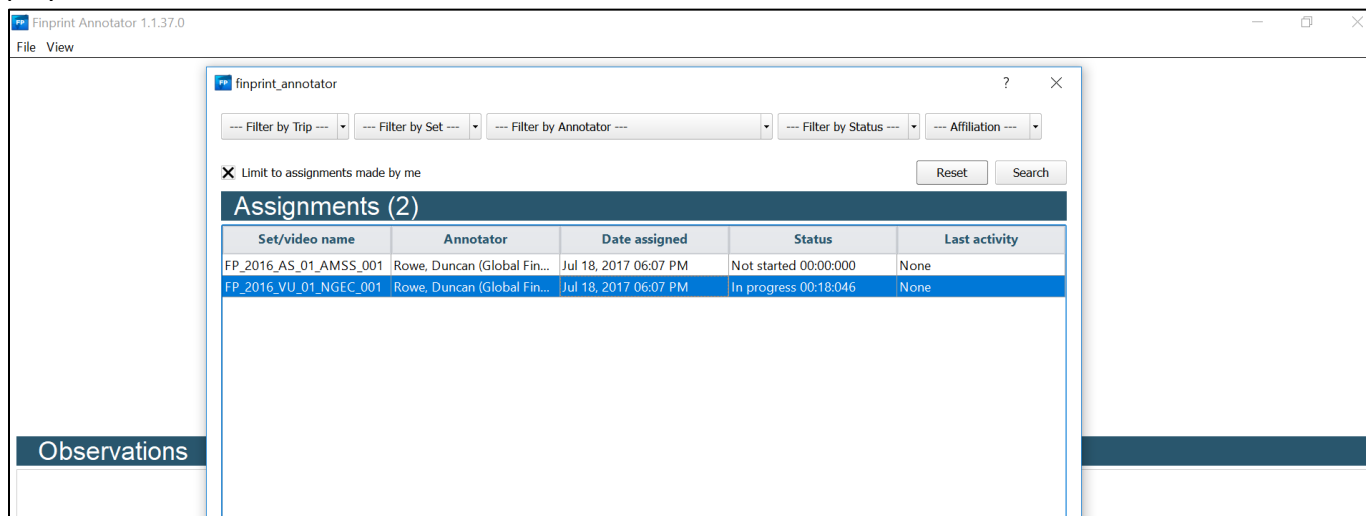
When you first log in you will see a pop-up screen showing your current list of assigned videos. You can access this list at any time by going to the 'File → Assigned Set List' menu option, or using the **CTRL+L** shortcut key.



If your assignment list is empty, please contact your Lead, who will assign you videos to annotate. **Leads and Superusers will see a different version of the assignment list pop-up. See Page 30 or click [HERE](#) to see the assignment list for Leads and Superusers.

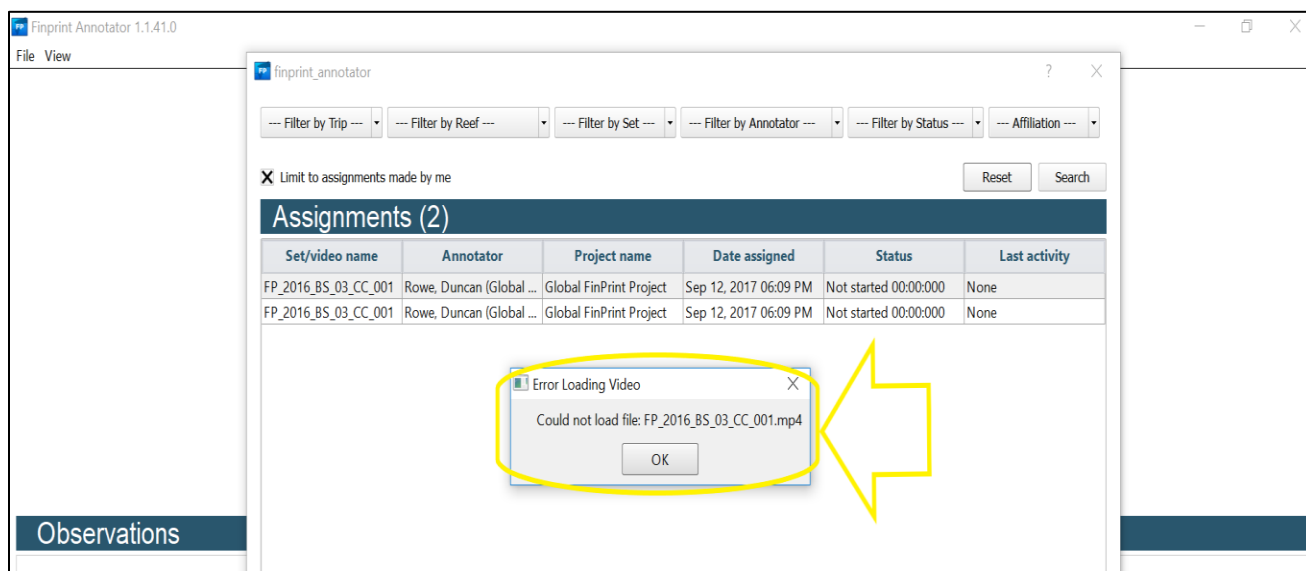
Opening and watching a video

Double-click on a specific video assignment to open it. This will open the video, but not begin playback.



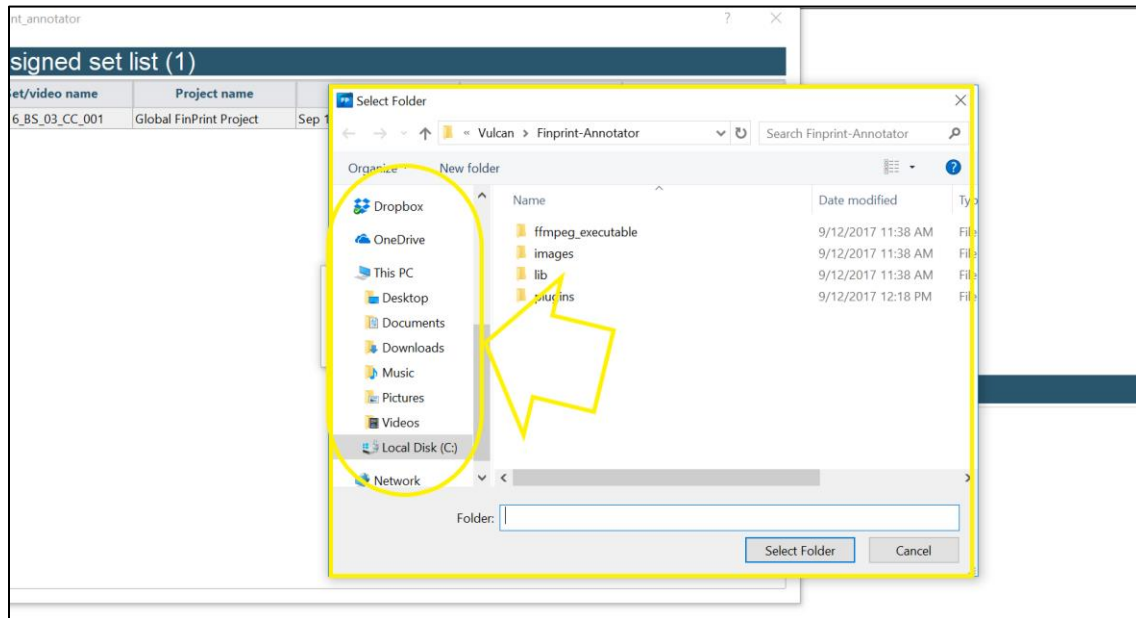
Error Loading Video

If you see the 'Error Loading Video' message below, it most likely means the video file for the assignment is not in the location specified in the **File->Properties (CTRL-P)** menu item:

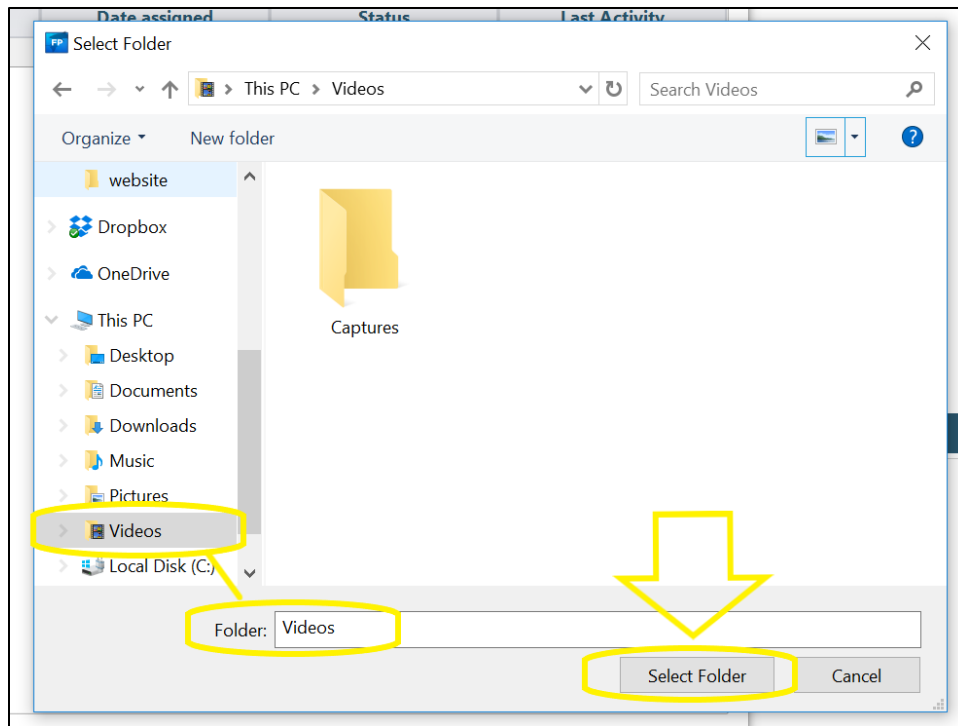


To resolve, this, you can either locate the video file and move it to the location specified in the **File->Properties** setting, or you can change the **File->Properties** setting to point to the file path that the video file is located in.

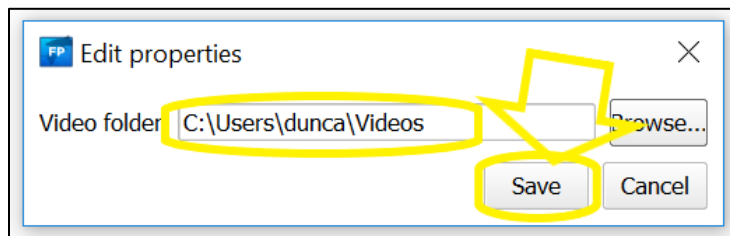
To do the latter, click on **File->Properties** and then click on '**Browse...**'. A 'Select Folder' window will open. Locate the folder where your video is stored using the navigation bar on the left-hand side.



When you have identified the correct folder, click once on it. It will be added to the 'Folder' location box. In the example shown below, the video has been uploaded onto the User's hard drive, into the 'Videos' folder.



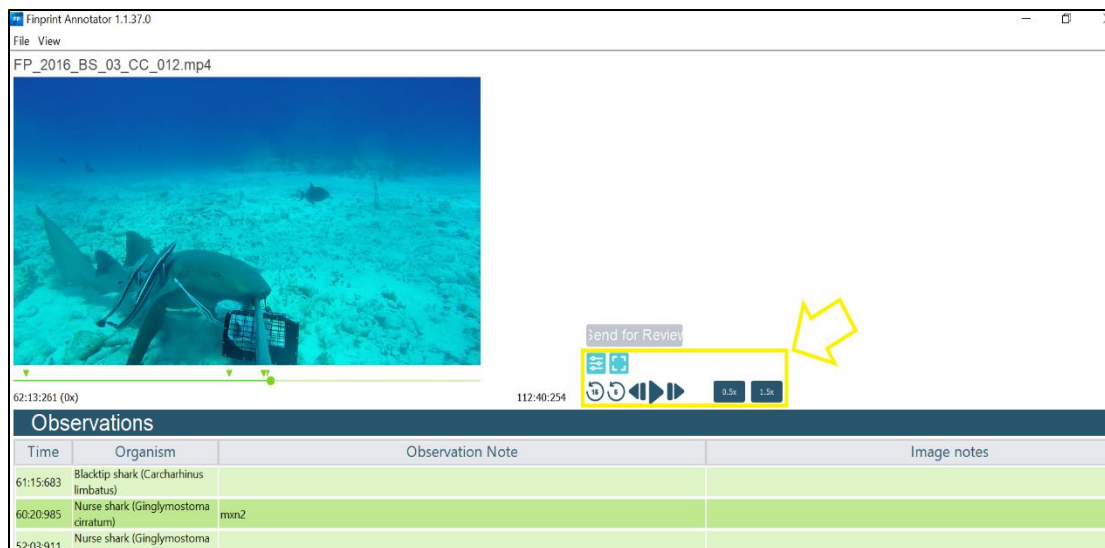
Click on 'Select Folder' to proceed. Note that the correct video file location is now displayed in the 'Edit properties' box. Click on 'Save'.



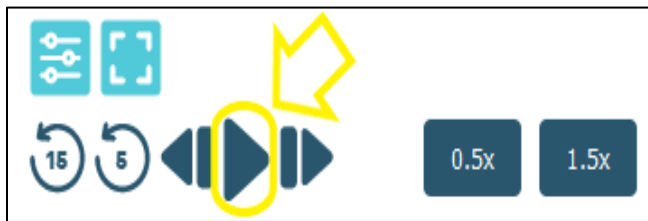
You should now be able to open and play the video assignment by double clicking it in the 'Assigned Set List' window (open this with **CTRL-L**).

Media Controls

To begin video playback, use the Media Controls, **highlighted** below.



To start playing the video, click 'Play'. The highest resolution of video file that will play back smoothly is 30 FPS (frames per second).



To pause the video at any time during playback, click 'Pause'.



You can also use the **SPACE BAR** as a shortcut key for playing and pausing the video.

Clicking either the '15s' or '5s' rewind buttons will stop playback and rewind the video by the selected time. You can click these multiple times, to rewind by values of 5 or 15 seconds each time.



Alternatively, you can use **CTRL↓** (Control + down arrow) to rewind by 15s and **CTRL←** (Control + left arrow) to rewind by 5s.

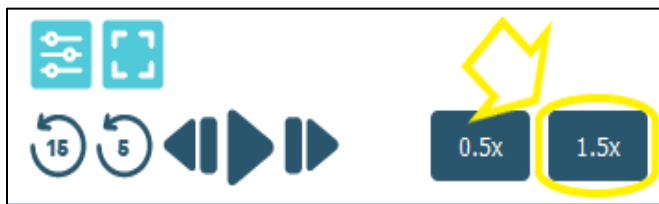
You can also move backwards or forwards by one frame at a time, using the 'Advance/Rewind frame' buttons marked below, or the shortcuts **SHIFT→** and **SHIFT←**.



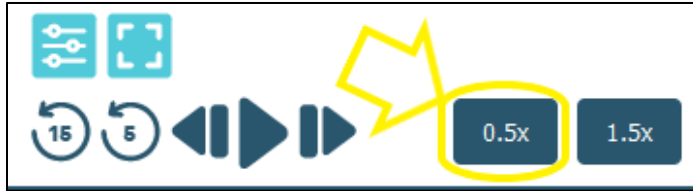
To resume normal playback, click 'Play'.



Click the '1.5x speed' button to view playback at a rate 1.5 times faster than normal speed.

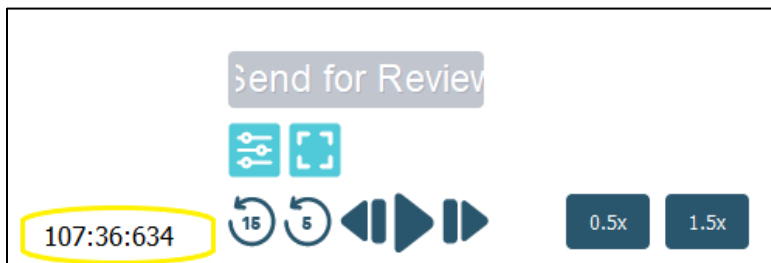


Click the 'Half-speed' button to view playback at half the normal speed.



After using the 0.5x or 1.5x buttons, click 'Pause' then 'Play' to resume viewing in normal time, or use the **SPACE BAR** shortcut.

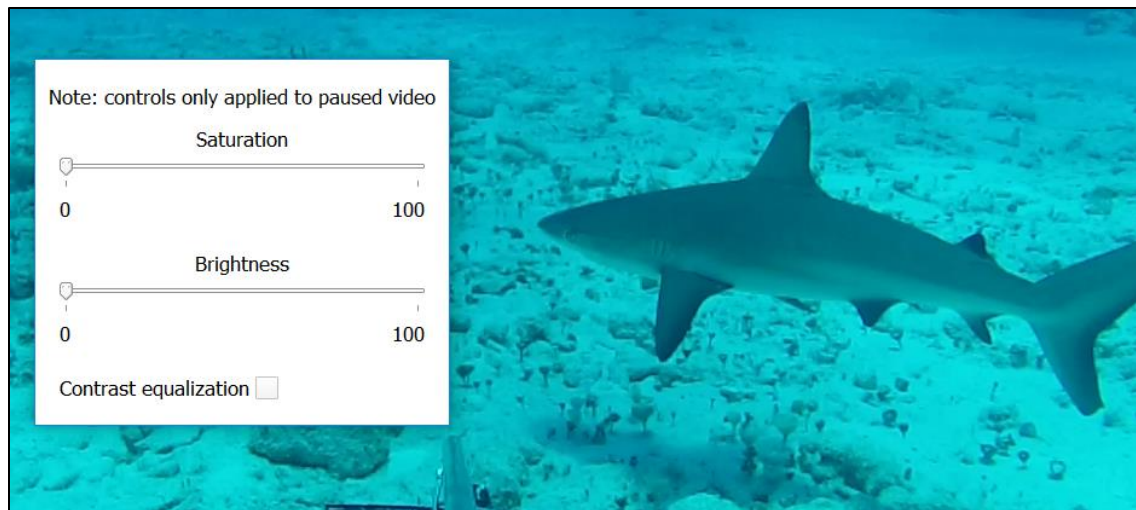
The total duration of the video is shown here.



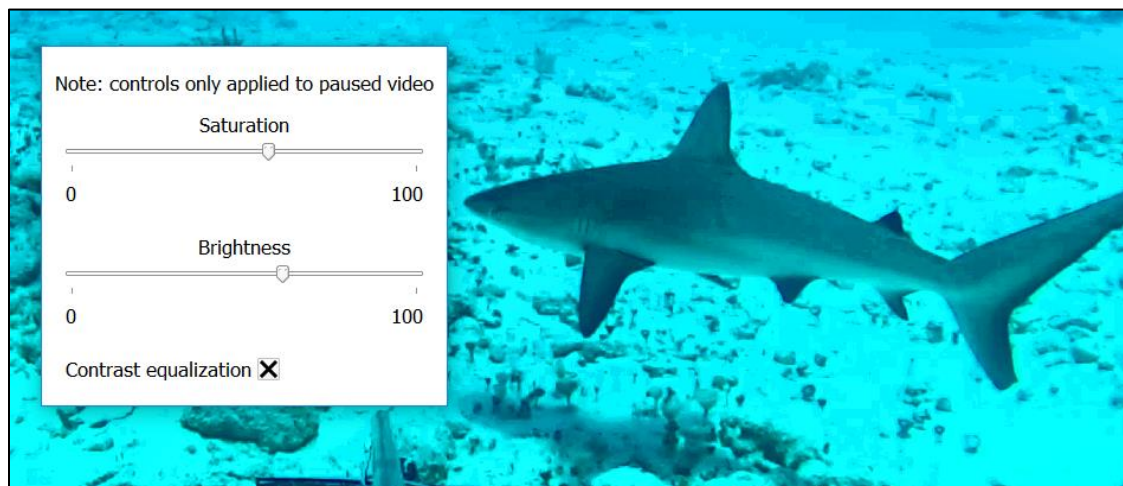
You can adjust the picture quality when the video is paused by clicking on the 'Contrast menu' button. Note: *You will only see the video quality adjustments applied while the video is paused.*



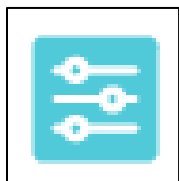
A pop-up menu will appear (see below)

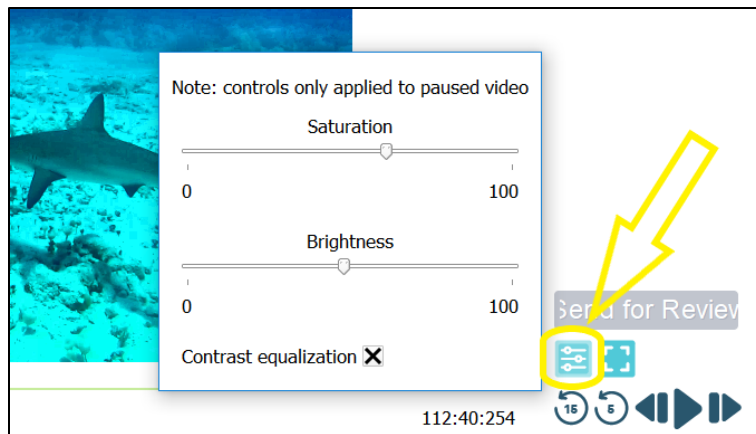


Adjust Saturation and Brightness as needed, using the sliders. Click on 'Contrast equalization' to turn the function on or off.



To exit the Contrast menu, click the same button used to open it:



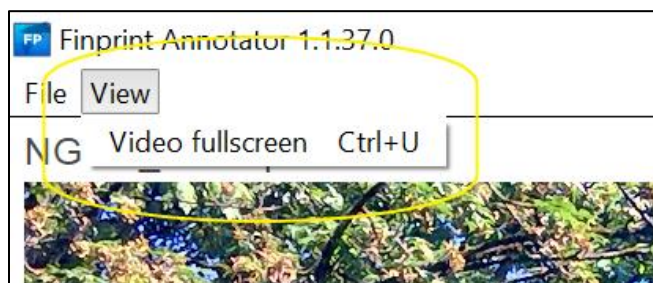


To view the video in full-screen mode click the 'Video fullscreen' button.

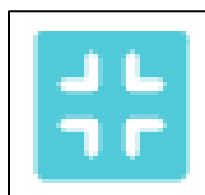


Note that playback will pause when switching between fullscreen mode and back, and you will need to click 'Play' again to resume viewing.

You can also use the **CTRL-U** shortcut key or click on 'Video fullscreen' in the View menu to enter or exit fullscreen mode.

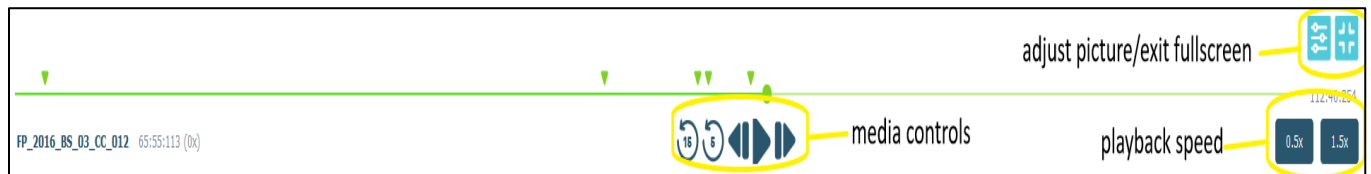


To exit full-screen mode at any time, press **ESC**. You can also click again on the 'Video fullscreen' button on the right of the in-video navigation menu.

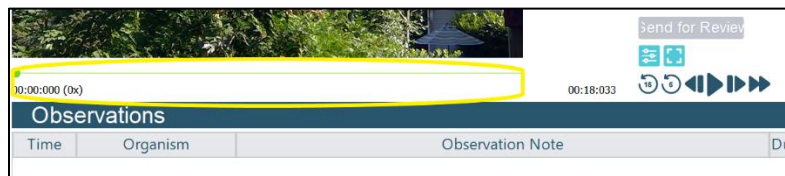




The in-video navigation menu (above/below) is available in normal or full-screen mode. Note that clicking on the video screen will NOT pause or restart playback. You must use the navigation controls, or the space bar.



You can also manually adjust the time slider to any point in the video.



Drag the slider to your chosen time. Press 'Play' to resume playback.

NOTE: You can use the video slider to rapidly find the point at which the BRUV has settled on the ocean floor in order to capture the MARK ZERO TIME. Once the MARK ZERO TIME has been set, you cannot use the slider to advance the video past the point you've watched the video in normal playback mode.

***Leads and SuperUsers can use the time slider to advance to any point in the video. Additionally, a further 3x playback speed is available for their use:*

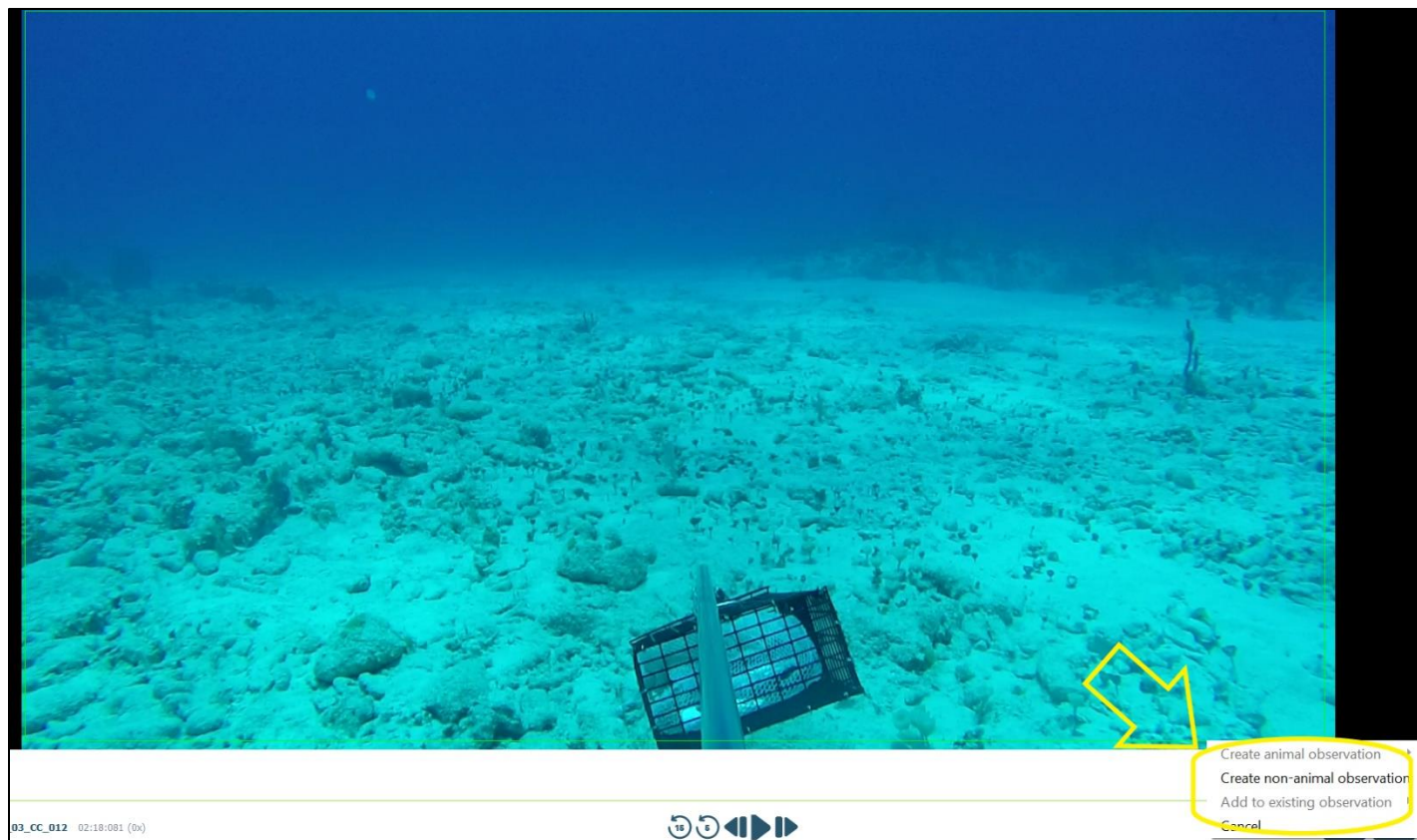


Annotation controls: Creating Observations

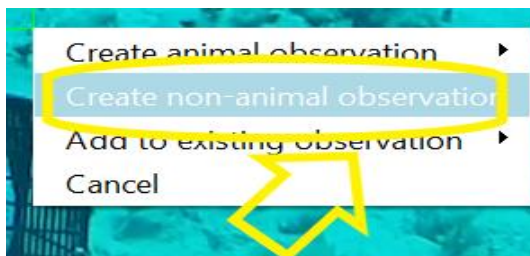
Time Events (MARK ZERO TIME, MARK 90 MIN TIME, and MARK HAUL TIME)

The first observation you create must be the MARK ZERO TIME. You can use the video slider to advance to the point at which the BRUV has settled on the ocean floor to capture the MARK ZERO TIME.

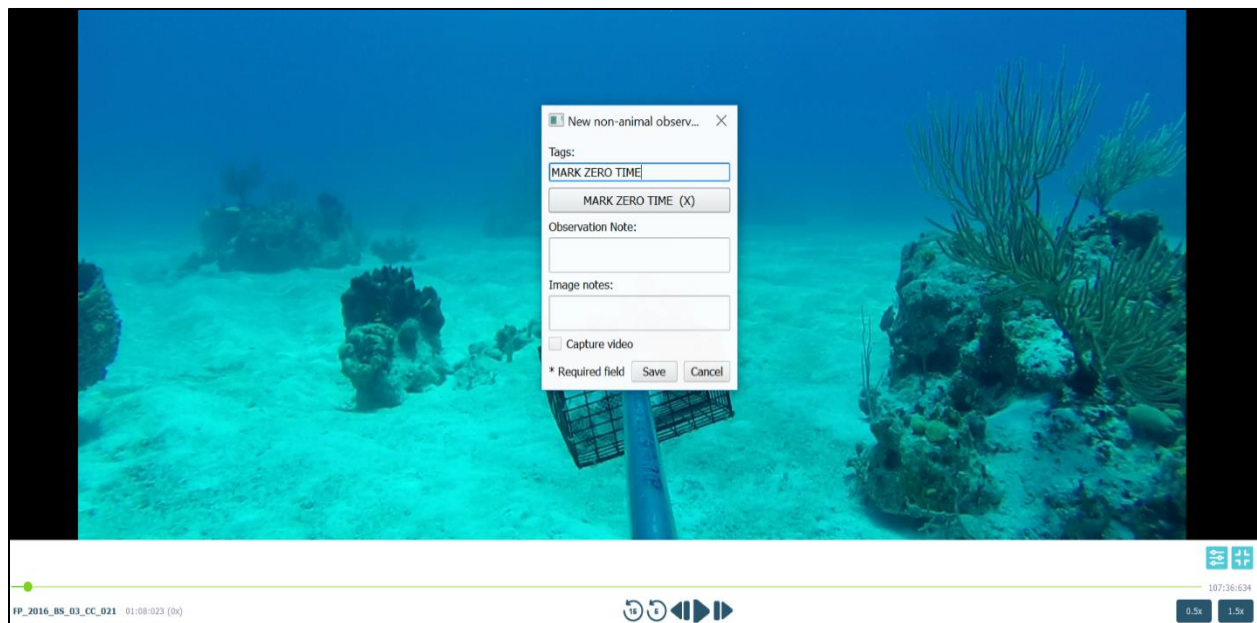
Click-and-drag to frame the entire video screen with either mouse button, to create a rectangle on the screen, which results in a menu appearing (bottom-right, below).



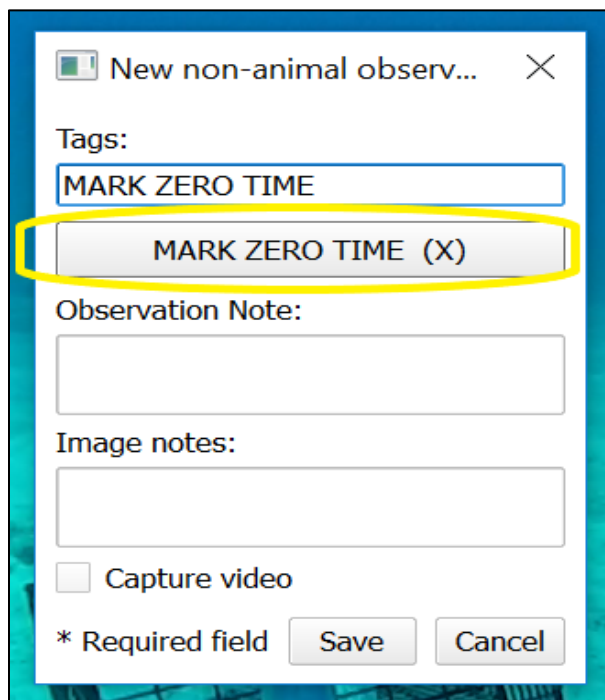
Select 'Create non-animal observation'...



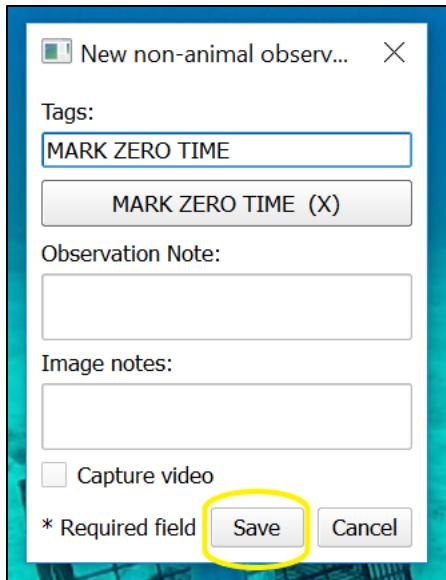
...and a pop-up window will appear.



You'll notice the "Tags:" field is automatically populated with the MARK ZERO TIME tag. **Tags** are pre-defined by project leads to provide a way to consistently identify specific types of observations, events, and behaviors across a project. Your lead can provide guidelines on what additional types of Tags you should be using.



If applicable, enter any pertinent [Observation](#) or [Image](#) notes, then click 'Save' to progress.



New non-animal observ... X

Tags:
MARK ZERO TIME

MARK ZERO TIME (X)

Observation Note:

Image notes:

☐ Capture video

* Required field Save Cancel

There are two other time-related observations that your lead may require you to mark for each video set – MARK 90 MIN TIME and MARK HAUL TIME.

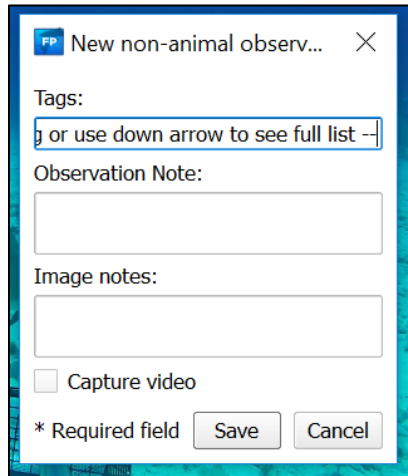
The MARK 90 MIN TIME is set at the point in the video where you've watched 90 minutes of video from the point of the MARK HAUL TIME.

The MARK HAUL TIME is set at the point in the video when the BRUV is raised up off the ocean floor back to the boat.

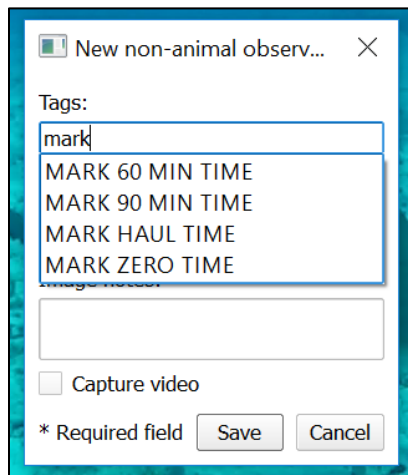
To set one of these observations, pause playback and click-and-drag open a new rectangle and select 'Create non-animal observation'.



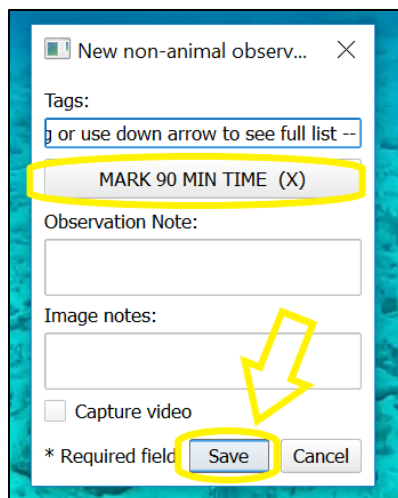
The 'New non-animal observation' window will pop up.



Type 'mark' into the 'Tags' box or use the drop-down menu to find the 'MARK x TIME' Tags.

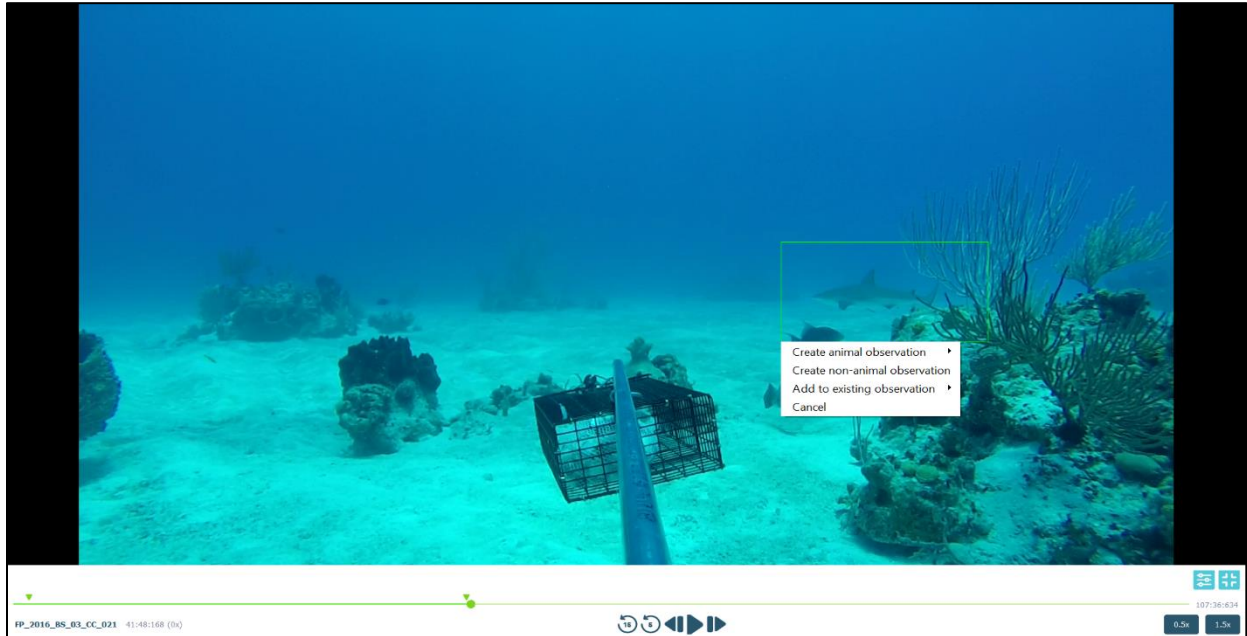


Select the relevant Time Event Tag and enter any Observation or Image notes, then click 'Save'.

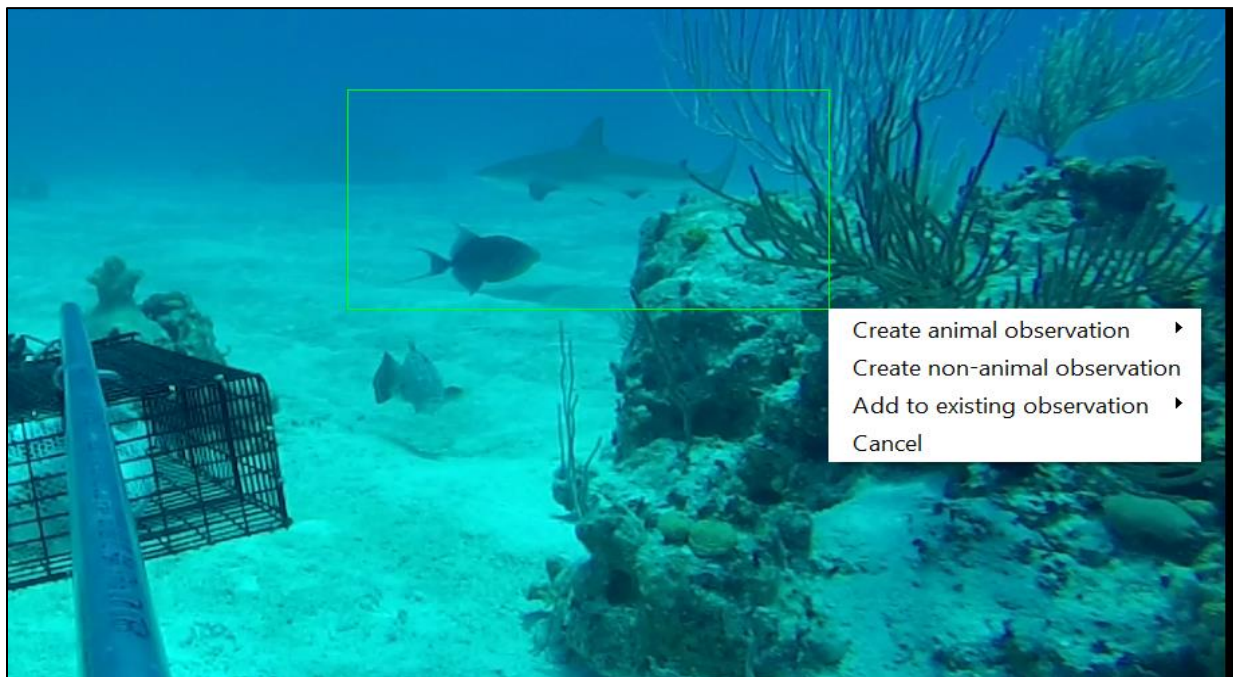


Annotation controls: Animal Observations

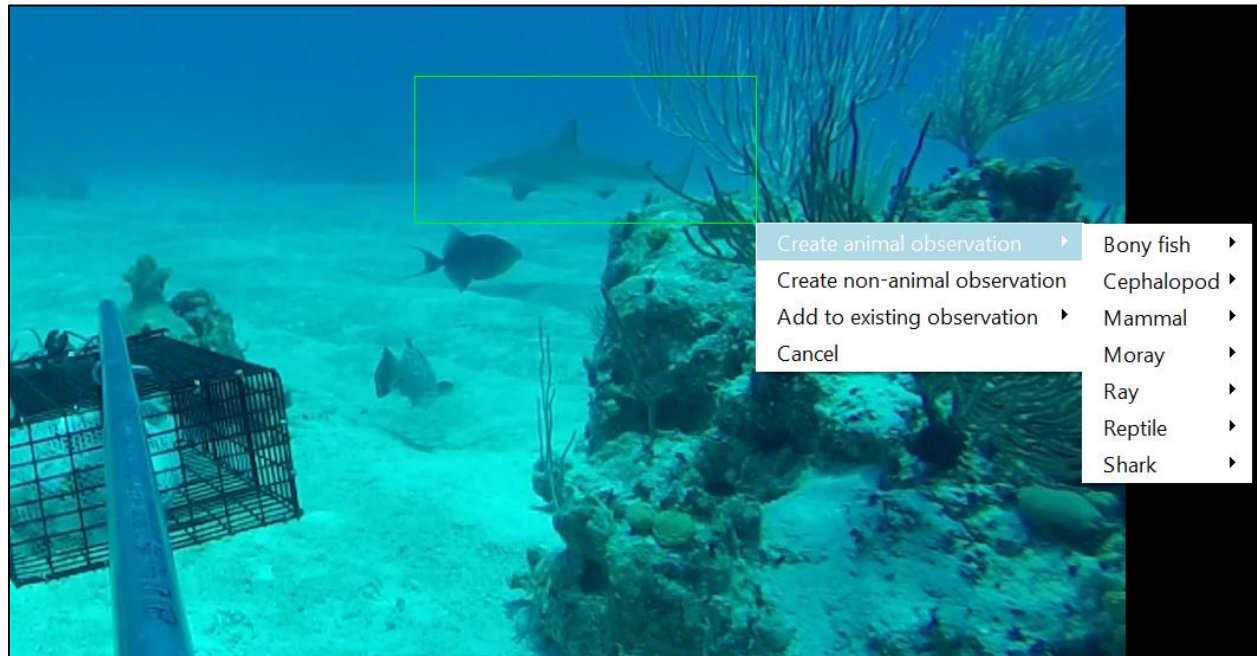
To record an animal observation, first 'Pause' playback. Click-and-drag a frame around the animal and the observation menu will appear.



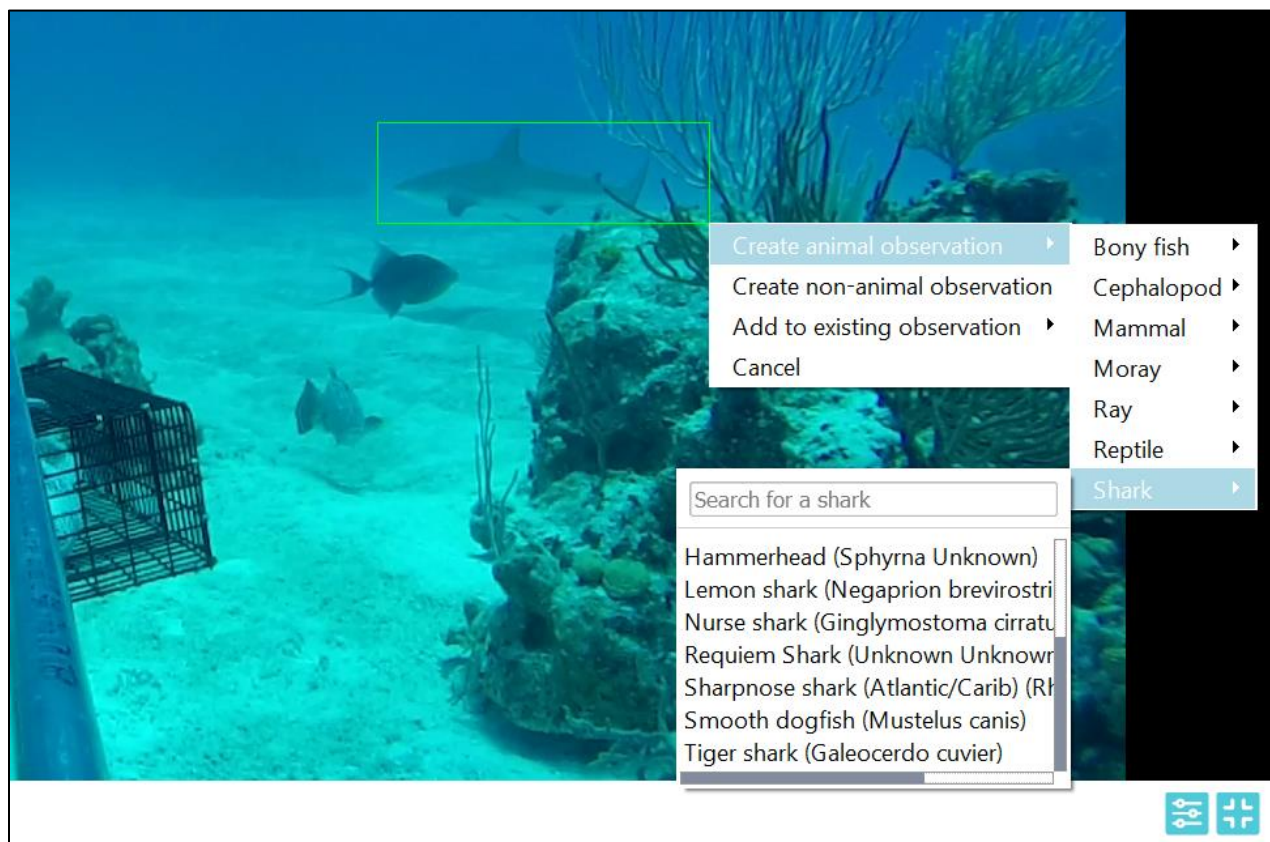
Try to keep the frame around individual animals. In the image below two animals are framed.



This image is better framed.

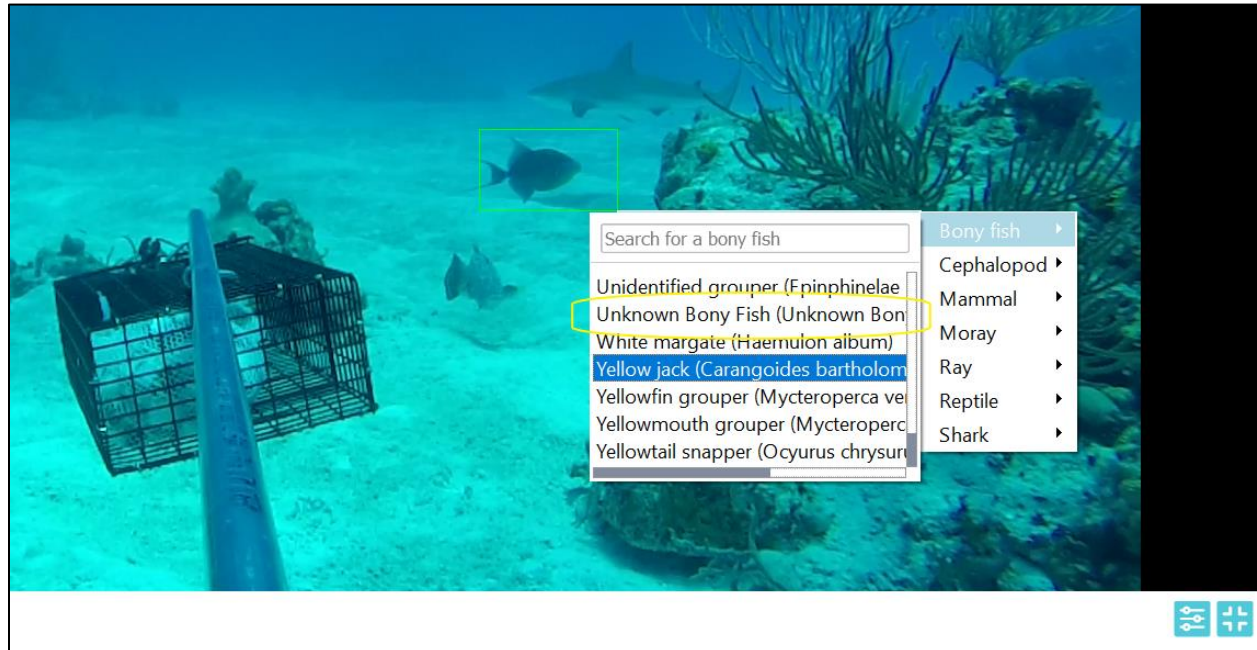


Hover over 'Create animal observation' and an expanded list will pop up (see above). Hover over the relevant category list and the species list will pop up (see below).

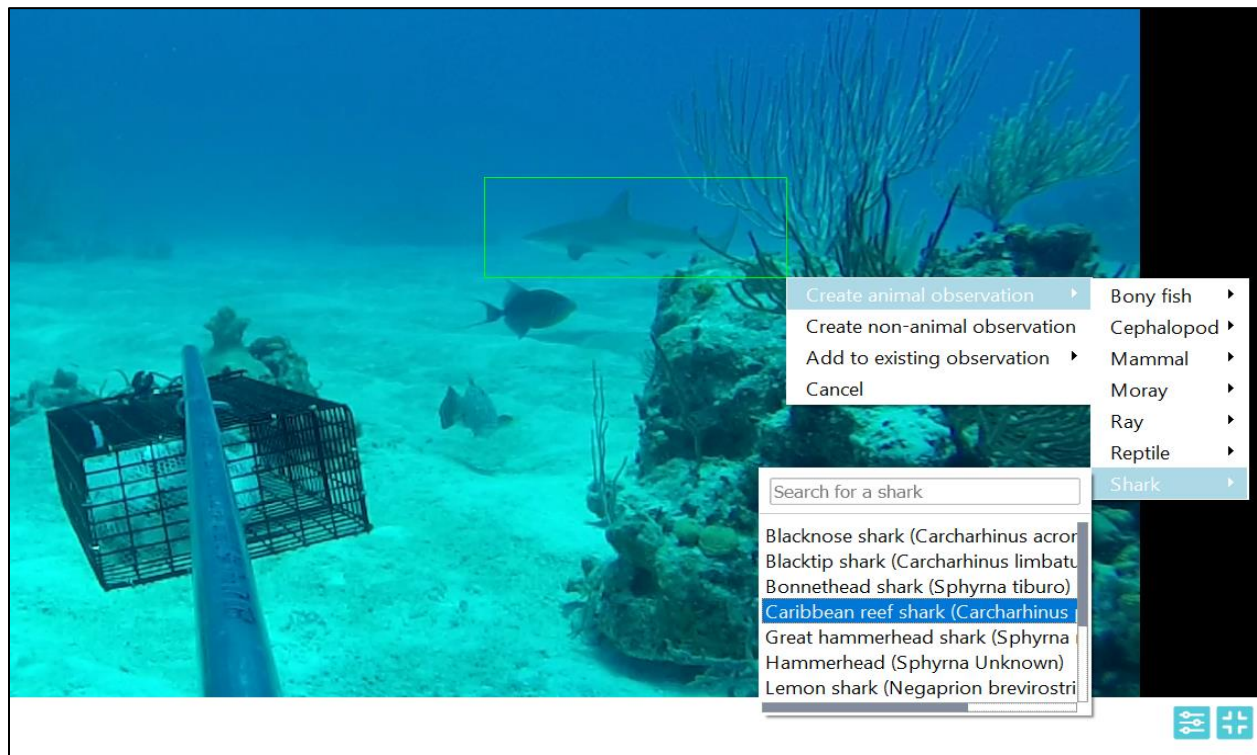


Species data lists are populated by 'Region' as determined in the 'Set' metadata. You can also create customized species lists, depending on your needs, via the administration page on the website.

Scroll up or down the list to select the relevant species or type any part of the species name in the search box to narrow down the list of species to choose from. If you are unsure of the species, make the observation anyway – you can choose one of the “Unknown...” options or make changes to your observations later. You can also add an Observation or Image note if you are unsure if you’ve identified the species correctly.



When you have highlighted the species you want to select, **double-click** it.

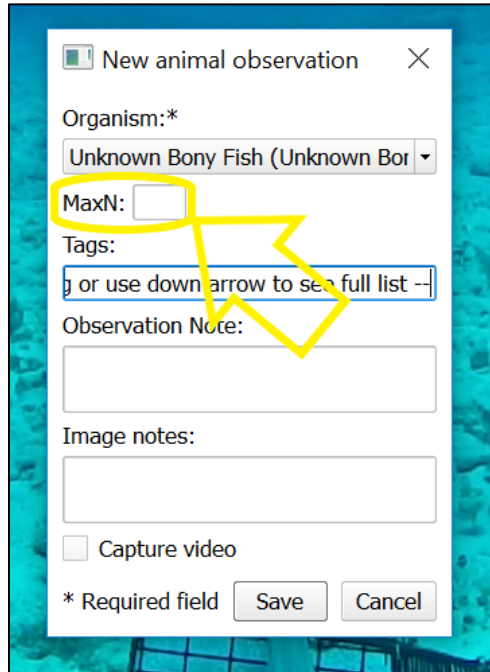


The 'New animal observation' tab will appear.

A screenshot of a 'New animal observation' dialog box. The dialog has a title bar with a close button (X). It contains the following fields and controls: 'Organism:*' with a dropdown menu showing 'Unknown Bony Fish (Unknown Bony Fish)'; 'MaxN:' with a text input field; 'Tags:' with a text input field containing the text 'or use down arrow to see full list --'; 'Observation Note:' with a large text area; 'Image notes:' with a large text area; a checkbox labeled 'Capture video'; and a footer with the text '* Required field' and two buttons: 'Save' and 'Cancel'.

MaxN

You'll notice just below the Organism name is a field called "MaxN", which is a very important type of observation you'll need to make for each unique species of shark and ray that you see in a specific video.



The image shows a screenshot of a web form titled "New animal observation" with a close button (X) in the top right corner. The form contains the following fields and elements:

- Organism:*** A dropdown menu currently showing "Unknown Bony Fish (Unknown Bor".
- MaxN:** A text input field, which is highlighted with a yellow circle and a yellow starburst graphic.
- Tags:** A text input field containing the text "g or use down arrow to see full list --".
- Observation Note:** A large text area for notes.
- Image notes:** A text area for image-related notes.
- ☐ **Capture video**
- * Required field** (text label)
- Save** and **Cancel** buttons.

"MaxN" is short for "maximum number" and each time you see a new maximum number of animals of a specific species in the same video frame, you'll need to record an observation with a new "MaxN" value. So, for example, the first time you see a single Blacktip shark in a given video, you'll want to create an observation for it and specify a value of "1" in the MaxN field. If during the same video, you see two (or more) Blacktip sharks at the same time in the video, you'll want to create a new observation and specify a new MaxN value that indicates how many Blacktip sharks you see. If, later in the video you see more than the previous MaxN value Blacktip sharks at the same time, then you create a new observation with the new, greater MaxN value. You'll notice when you specify a value in the MaxN field, that the MaxN Tag is automatically added as well.

If this is the *first appearance* of a new animal, you also need to tag it as such. Click in the 'Tags' field.

New animal observation

Organism:*
Unknown Bony Fish (Unknown Bor

MaxN:

Tags:
or use down arrow to see full list --

Observation Note:

Image notes:

☐ Capture video

* Required field Save Cancel

Start typing in “first” and you’ll see the ‘Image Frame tags – First appearance of organism’ Tag appear (below).

New animal observation

Organism:*
Blacktip shark (Carcharhinus limb

MaxN: 2

Tags:
first
Image Frame tags/First appear...

Observation Note:

Image notes:

☐ Capture video

* Required field Save Cancel

Click ONCE to select the Tag. It will be added just below.

New animal observation

Organism:*
Blacktip shark (Carcharhinus limbæ)

MaxN: 2

Tags:
g or use down arrow to see full list --

/First appearance tags/MaxN ima

Observation Note:

Image notes:

☐ Capture video

* Required field Save Cancel

You can add further Tags at this time by following the same process. If you want to remove a Tag for any reason, click on it in the field where it is displayed.

For example, in the observation below both 'Attracted' and 'Passing' Tags, which are mutually exclusive, have been applied. Click once (anywhere) on the Tag you want to remove, in this case 'Attracted'.

Edit animal observation

Observation Time: 20:52:861

Organism:*
Blacktip shark (Carcharhinus limbæ)

MaxN: 2

Tags:

Attracted (X) /First appearance

tags/MaxN ima Passing (X)

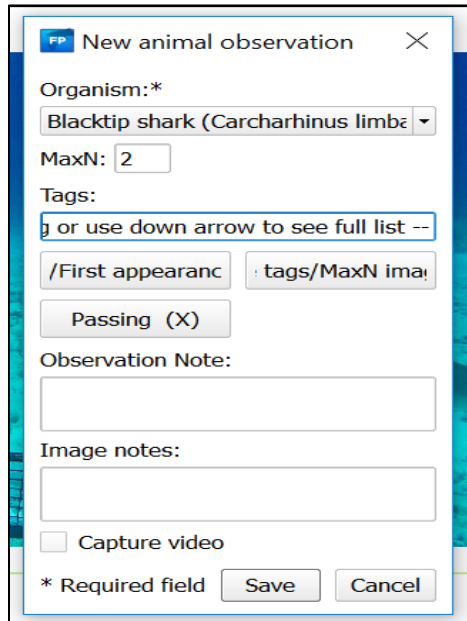
Observation Note:

Image notes:

☐ Capture video

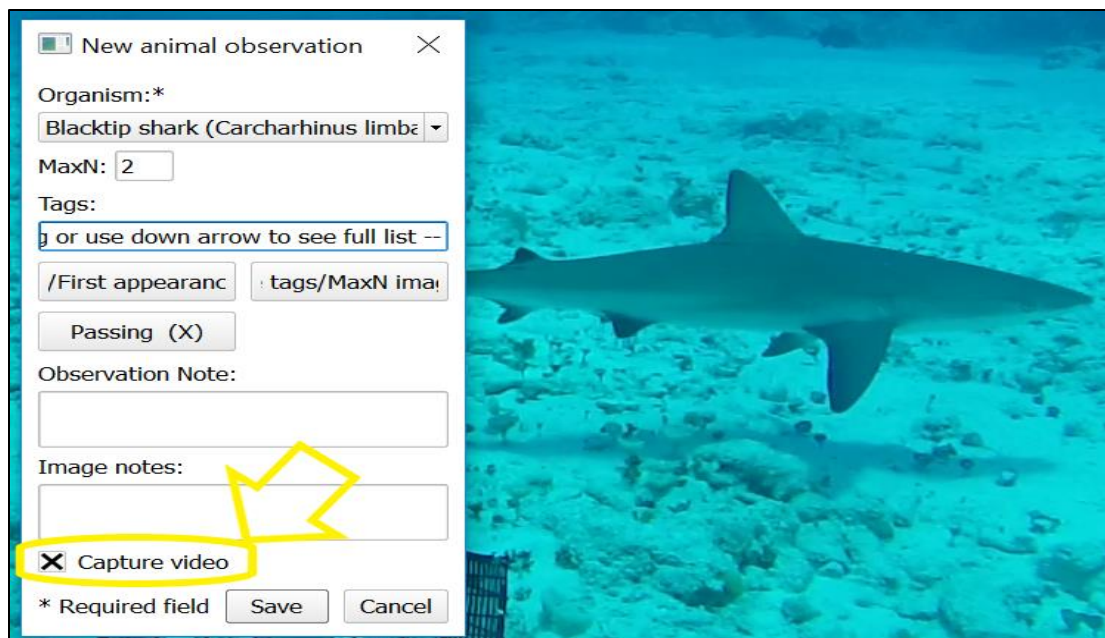
* Required field Update Cancel

Note that the 'Attracted' tag has been un-applied.

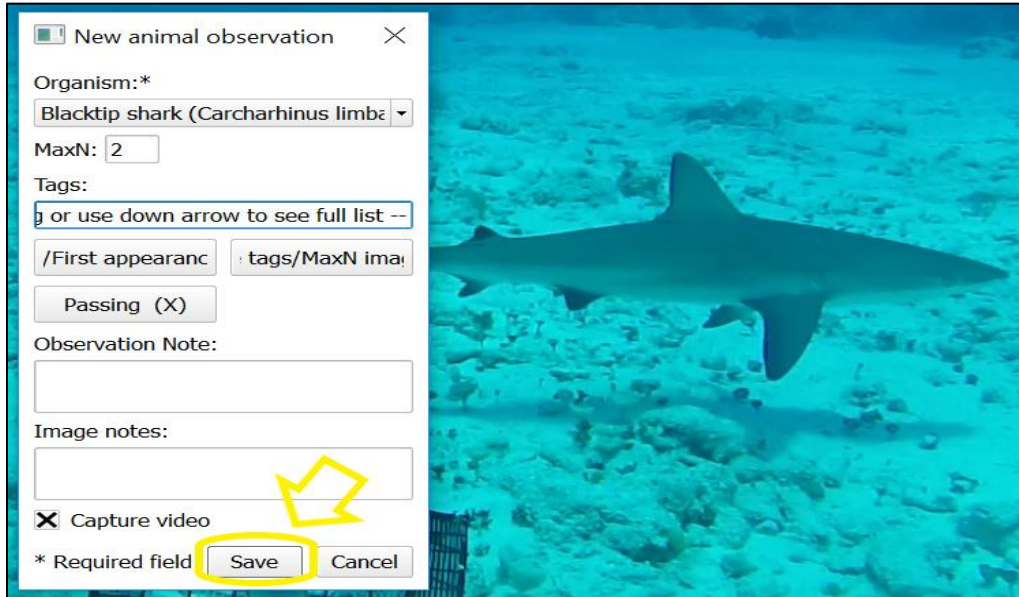


Before you save, you can also add any observation or image notes that you feel relevant. You can also add a short (8-second) video clip by selecting 'Capture video'.

Your lead can provide guidance on when to include a video clip, but typically you would do so if you're unsure of the species and want to capture the video clip for your lead to see when reviewing your observations. This is particularly relevant to low-visibility or low-light situations, where the swimming motion/pattern can help identify individual animals.



When you have filled out all the relevant information, click on 'Save' to record your observation.



New animal observation

Organism:*
Blacktip shark (Carcharhinus limbatus)

MaxN: 2

Tags:
or use down arrow to see full list --

/First appearance tags/MaxN image

Passing (X)

Observation Note:

Image notes:

☒ Capture video

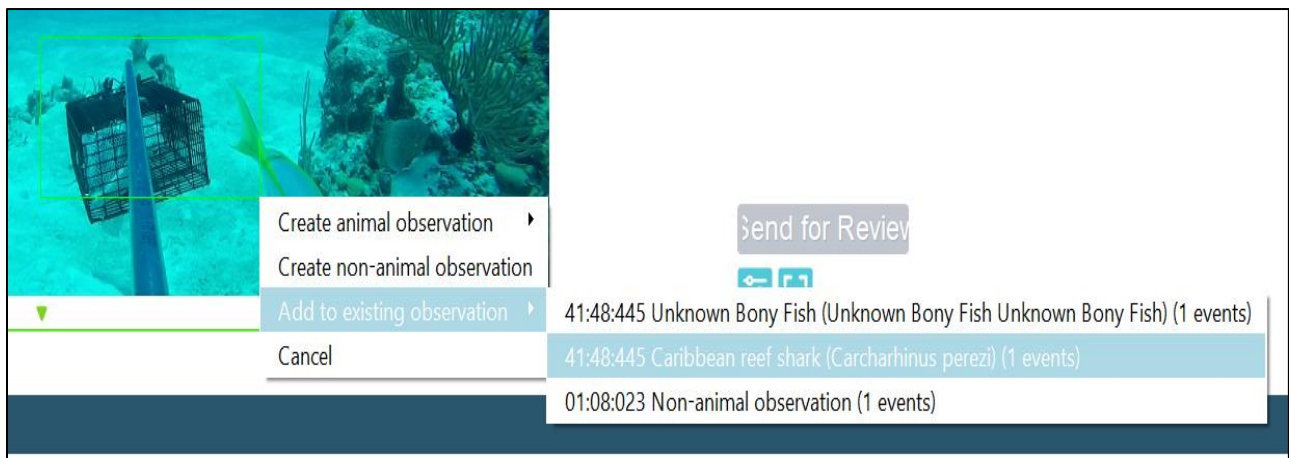
* Required field Save Cancel

Annotation controls: Adding events to existing observations

In the Annotator, each observation you create is also considered an “event”. Most observations you create will likely be a single event. But there may be times where you want to add additional observation “events” to an existing observation for the same animal.

For example, you may have observed a shark for several minutes when it swims over the camera and you can then determine the sex of the animal – you can then add that data to the observation.

To add an additional observation event to an existing observation, after drawing an extent rectangle, hover over 'Add to existing observation' from the pop-up menu and then hover over the existing observation you want to add an event to and click to select it.



Create animal observation

Create non-animal observation

Add to existing observation

Cancel

Send for Review

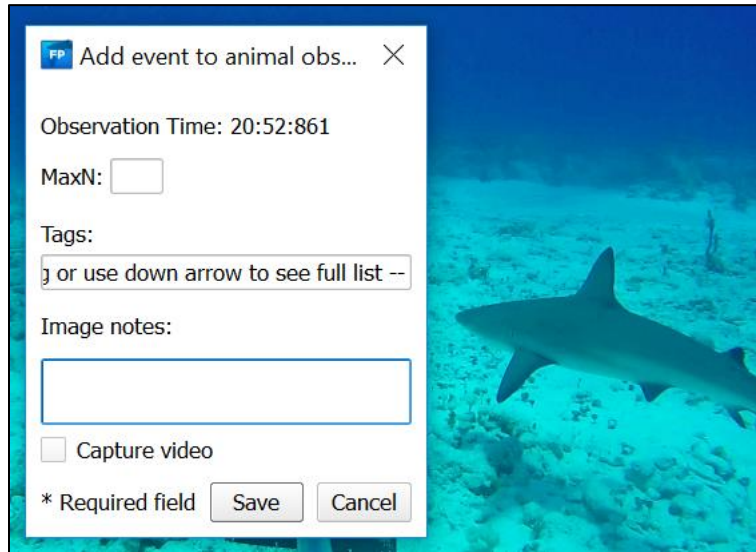
41:48:445 Unknown Bony Fish (Unknown Bony Fish Unknown Bony Fish) (1 events)

41:48:445 Caribbean reef shark (Carcharhinus perezi) (1 events)

01:08:023 Non-animal observation (1 events)

You can also use the arrow keys (up and down) to scroll through existing observations, and 'Enter' to open one.

The 'Add event to animal observation' window will pop up.



After making your changes, click 'Save'.

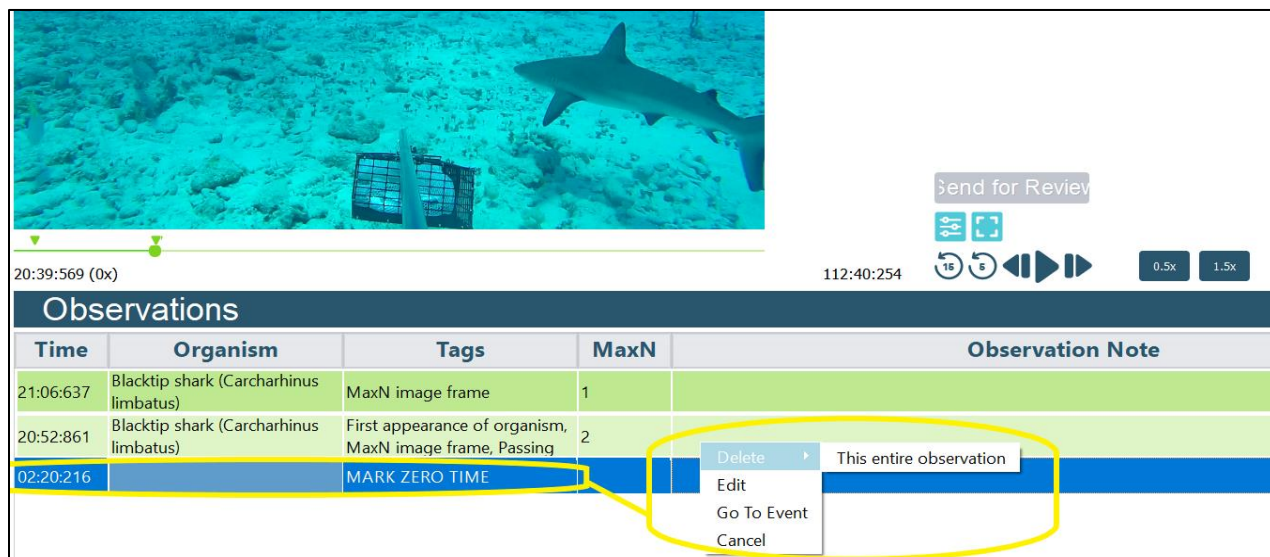
Observations table

As you create new observations, you will notice that they appear in normal screen mode (eg NOT in full-screen mode) in the Observations table. You can edit previously-made observations from this table without needing to go to the specific location of an observation in the video.

A screenshot of the software interface showing a video of a shark swimming underwater. Below the video is a timeline with a green playhead at 20:39:569 (0x). To the right of the video are playback controls including a 'Send for Review' button, a '16' button, a '15' button, a '14' button, a '13' button, a '12' button, a '11' button, a '10' button, a '9' button, a '8' button, a '7' button, a '6' button, a '5' button, a '4' button, a '3' button, a '2' button, a '1' button, a '0.5x' button, and a '1.5x' button. Below the video and playback controls is a table titled 'Observations' with the following data:

Time	Organism	Tags	MaxN	Observation Note
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	
02:20:216		MARK ZERO TIME		

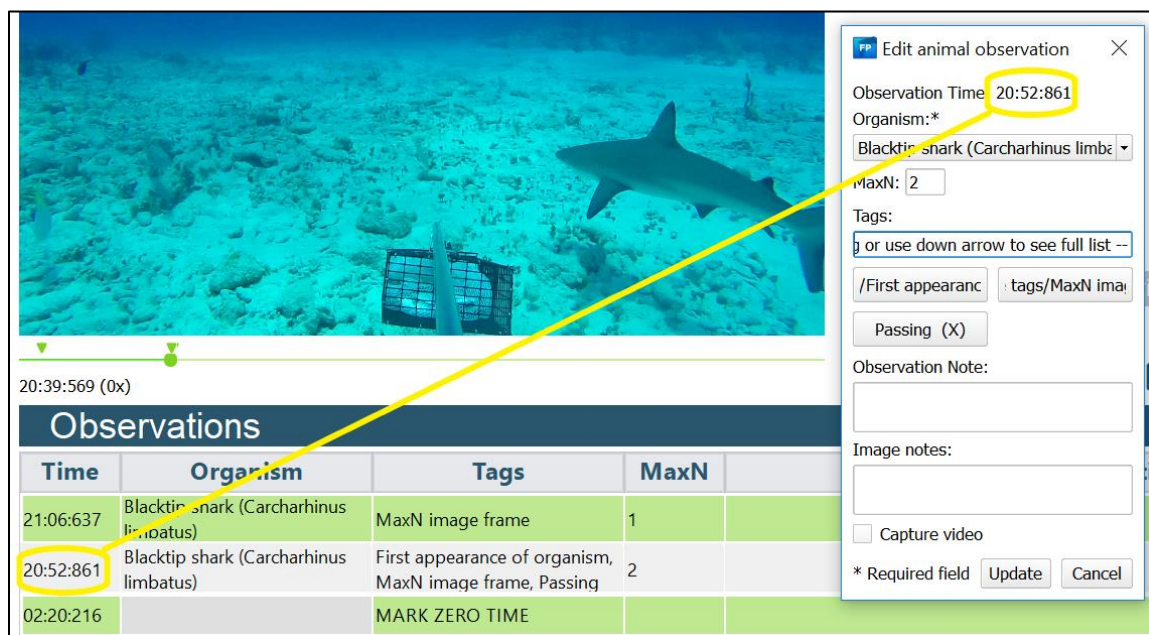
For example, if you make a mistake while setting the ZERO TIME you can delete the observation by right-clicking on the observation and selecting 'Delete -> This entire observation.' (Note that if you delete the MARK ZERO TIME observation, you must then make a new ZERO TIME observation to continue making observations.)



The screenshot shows a video player at the top with a shark and a cage. Below it is a table titled "Observations". The table has columns: Time, Organism, Tags, MaxN, and Observation Note. The third row, with Time 02:20:216 and Tags "MARK ZERO TIME", is highlighted in blue. A context menu is open over this row, showing options: Delete (with a sub-option "This entire observation"), Edit, Go To Event, and Cancel. A yellow circle highlights the "Delete" option and its sub-option.

Time	Organism	Tags	MaxN	Observation Note
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	
02:20:216		MARK ZERO TIME		

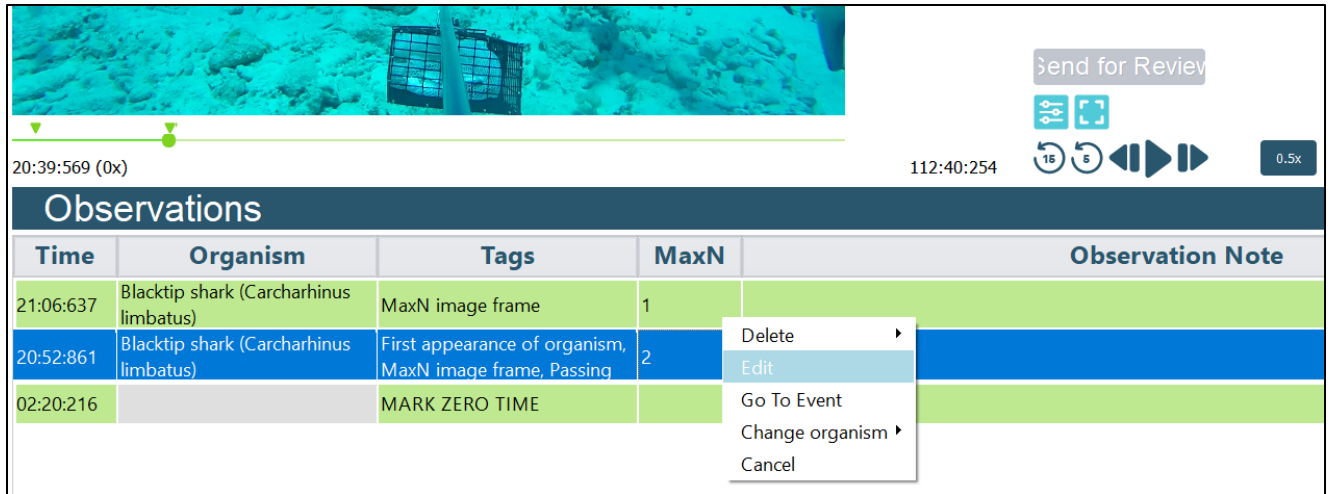
Double-clicking an observation in any field will open the 'Edit animal/non-animal observation' control tab (below).



The screenshot shows the same video player and Observations table. The second row, with Time 20:52:861, is highlighted in green. A yellow arrow points from this row to the "Edit animal observation" dialog box. The dialog box has fields for Observation Time (20:52:861), Organism (* Blacktip shark (Carcharhinus limbatus)), MaxN (2), Tags (First appearance of organism, MaxN image frame, Passing), Observation Note, and Image notes. There are buttons for "Update" and "Cancel".

Time	Organism	Tags	MaxN	Observation Note
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	
02:20:216		MARK ZERO TIME		

Alternatively, right-click on an observation, in any field, and select 'Edit'.



20:39:569 (0x) 112:40:254 0.5x

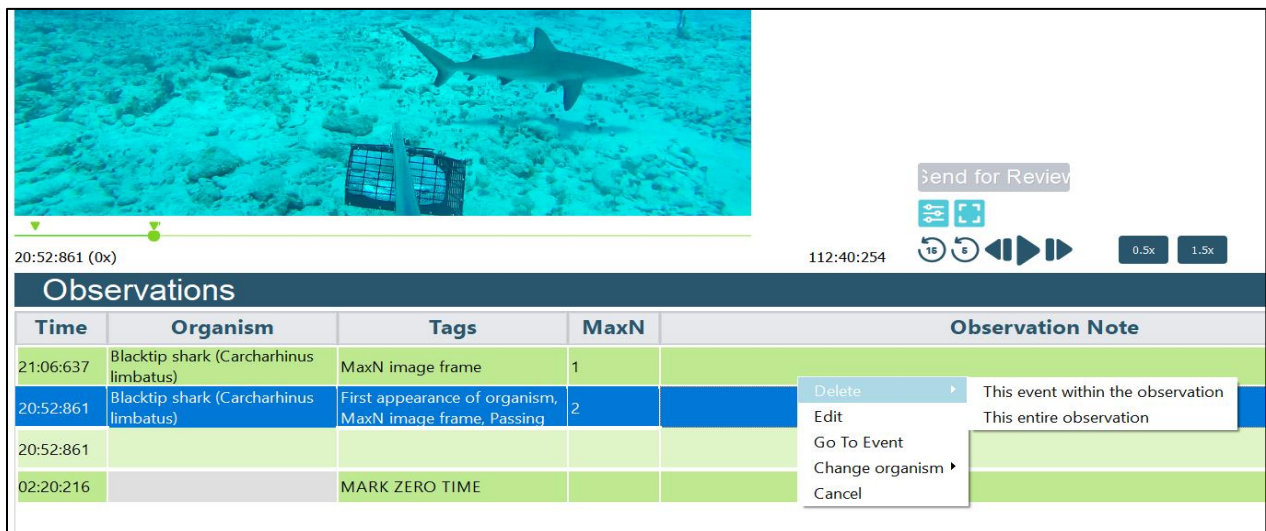
Send for Review

Observations

Time	Organism	Tags	MaxN	Observation Note
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	
02:20:216		MARK ZERO TIME		

- Delete
- Edit
- Go To Event
- Change organism
- Cancel

Using this menu, you can also ‘Delete’ an observation or specific events within an observation. Choosing ‘Delete -> This entire observation’ will delete the observation and all events associated with it. Choosing ‘Delete -> This event within the observation’ will only delete the specific event selected (see below).



20:52:861 (0x) 112:40:254 0.5x 1.5x

Send for Review

Observations

Time	Organism	Tags	MaxN	Observation Note
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	
20:52:861				
02:20:216		MARK ZERO TIME		

- Delete
 - This event within the observation
 - This entire observation
- Edit
- Go To Event
- Change organism
- Cancel

Select ‘Go To Event’ in any observation and the video will be set to the time the observation was recorded, and paused.



20:52:861 (0x) 112:40:254

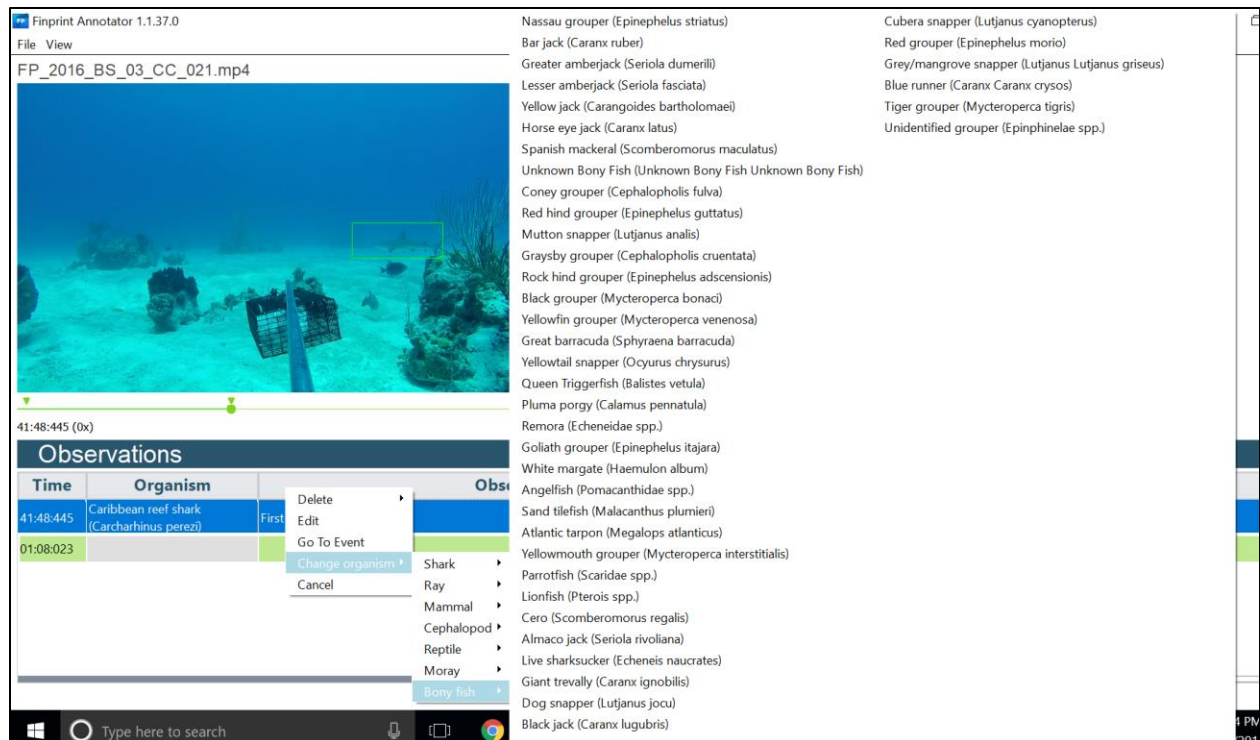
Time	Organism	Tags	MaxN	
21:06:637	Blacktip shark (Carcharhinus limbatus)	MaxN image frame	1	
20:52:861	Blacktip shark (Carcharhinus limbatus)	First appearance of organism, MaxN image frame, Passing	2	- Delete - Edit - Go To Event - Change organism - Cancel
02:20:216		MARK ZERO TIME		

You can change the organism for animal observations by selecting 'Change organism' from the menu and navigating to the appropriate organism.

41:48:445 (0x)

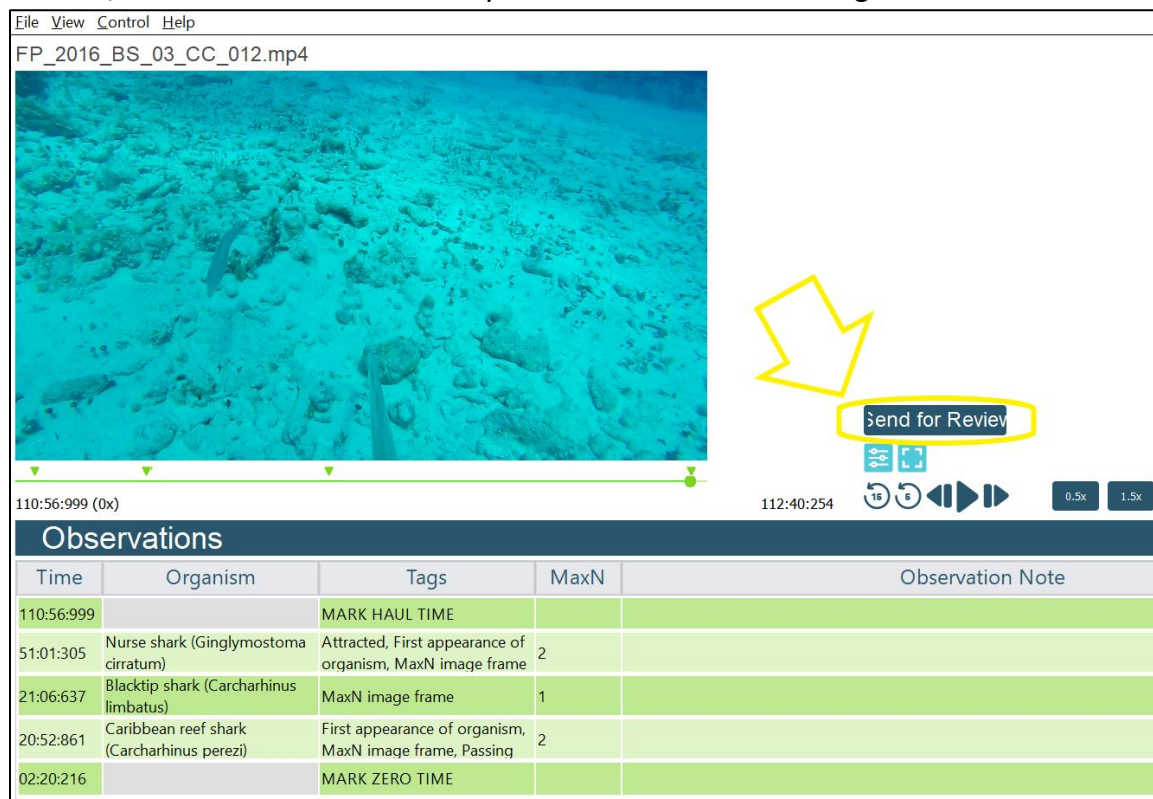
Time	Organism		Observation Note
41:48:445	Caribbean reef shark (Carcharhinus perezii)	First appear	
01:08:023			

- Delete
- Edit
- Go To Event
- Change organism
 - Shark
 - Ray
 - Mammal
 - Cephalopod
 - Reptile
 - Moray
 - Bony fish
- Cancel



Selecting the correct organism will automatically update the observation.

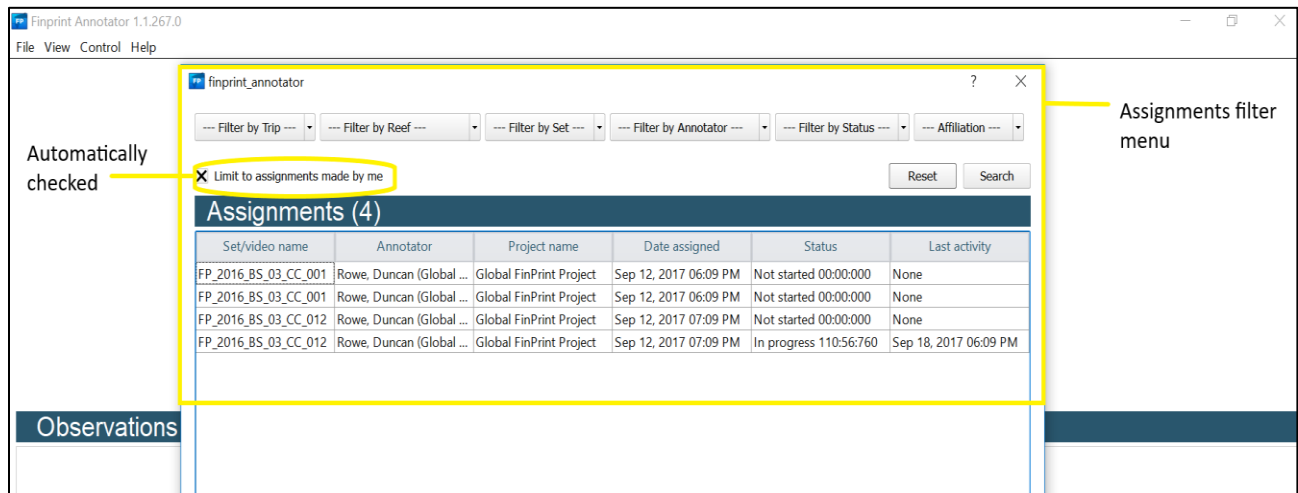
When you have watched the entire video and completed your observations, click ‘**Send for Review**’, which will be enabled after you ‘MARK HAUL TIME’. Congratulations!



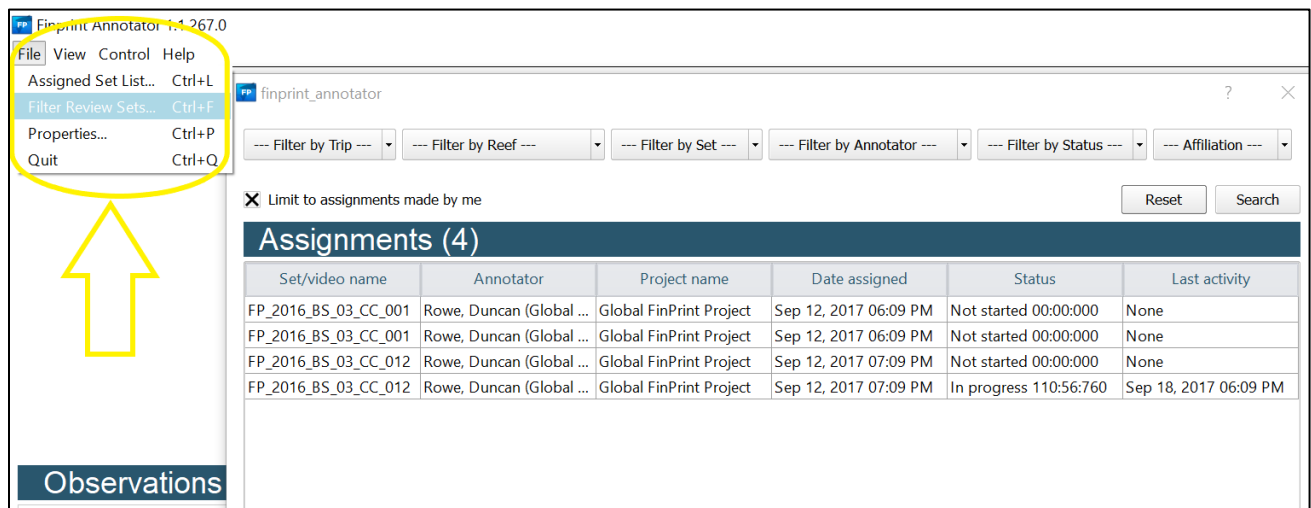
Annotator user guide for Leads/SuperUsers

Leads and SuperUsers will see a different pop-up window after signing in to the Annotator application.

The pop-up screen will show the Assignments filter menu, with details of any/all Assignments you have made.



You can access this at any time by using 'File → Filter Review Sets', or the shortcut **CTRL-F**.



From the Assignments filter menu, you can narrow your search by Trip, Reef, Set, Annotator, Status or Affiliation.

Use the drop-down menus to fill out any relevant fields.

finprint_annotator

FP_2016_BS_03 --- Filter by Reef --- --- Filter by Set --- --- Filter by Annotator --- --- Filter by Status --- --- Affiliation ---

Limit to assignments made by me

Reset Search

Assignments (4)

	Annotator	Project name	Date assigned	Status	Last activity
FP_2016_BS_03_CC_001	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 06:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_001	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 06:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 07:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 07:09 PM	In progress 110:56:760	Sep 18, 2017 06:09 PM

finprint_annotator

FP_2016_BS_03 --- Filter by Reef --- --- Filter by Set --- Rowe, Duncan (Global Fin --- --- Filter by Status --- --- Affiliation ---

Limit to assignments made by me

Reset Search

Assignments (4)

Set/video name	Annotator	Project name	Date assigned	Status	Last activity
FP_2016_BS_03_CC_001	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 06:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_001	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 06:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 07:09 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global ...)	Global FinPrint Project	Sep 12, 2017 07:09 PM	In progress 110:56:760	Sep 18, 2017 06:09 PM

When you are ready, click 'Search' to proceed.

finprint_annotator

FP_2016_BS_03 --- Filter by Reef --- CC_028 --- Filter by Annotator --- Ready for Review --- Affiliation ---

Limit to assignments made by me

Reset Search

Assignments (0)

Set/video name	Annotator	Project name	Date assigned	Status	Last activity
----------------	-----------	--------------	---------------	--------	---------------

To clear all search fields and start again, click 'Reset'.

The screenshot shows the 'fingerprint_annotator' window. At the top, there are several dropdown menus: 'FP_2016_BS_03', '--- Filter by Reef ---', 'CC_028', '--- Filter by Annotator ---', 'Ready for Review', and '--- Affiliation ---'. Below these is a checkbox labeled 'Limit to assignments made by me' which is currently checked. To the right of the checkbox are 'Reset' and 'Search' buttons. A yellow arrow points to the 'Reset' button. Below the filters is a section titled 'Assignments (0)' with a table header containing columns: 'Set/video name', 'Annotator', 'Project name', 'Date assigned', 'Status', and 'Last activity'.

To search across all Assignments made by all Leads, uncheck the 'Limit to assignments made by me' box.

This screenshot shows the same 'fingerprint_annotator' window, but the 'Limit to assignments made by me' checkbox is now unchecked. A yellow arrow points to this checkbox. The 'Reset' and 'Search' buttons remain visible to the right.

The results of your filtered search are displayed below:

The screenshot shows the 'fingerprint_annotator' window with the 'Limit to assignments made by me' checkbox unchecked. The 'Assignments (52)' section now displays a table with 6 columns: 'Set/video name', 'Annotator', 'Project name', 'Date assigned', 'Status', and 'Last activity'. The table contains 10 rows of data, all for the 'Global FinPrint Project'.

Set/video name	Annotator	Project name	Date assigned	Status	Last activity
FP_2016_BS_03_CC_018	Conover, Makenzie (S...	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 93:14...	Feb 22, 2017 04:02 AM
FP_2016_BS_03_CC_020	Diehl, Olivia (SBU)	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 94:55...	Mar 13, 2017 01:03 AM
FP_2016_BS_03_CC_010	Johnson, Lila (SBU)	Global FinPrint Project	Oct 05, 2016 07:10 PM	Ready for review 104:5...	Feb 06, 2017 08:02 PM
FP_2016_BS_03_CC_010	Murphy, Conor (SBU)	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 104:5...	Mar 18, 2017 09:03 PM
FP_2016_BS_03_CC_031	George, Mariya (SBU)	Global FinPrint Project	Feb 13, 2017 05:02 PM	Ready for review 114:3...	Feb 17, 2017 06:02 AM
FP_2016_BS_03_CC_039	Sullivan, Jolee (SBU)	Global FinPrint Project	Feb 16, 2017 02:02 PM	Ready for review 106:3...	Feb 23, 2017 05:02 PM
FP_2016_BS_03_CC_023	Piechocki, Camilla (SBU)	Global FinPrint Project	Oct 07, 2016 08:10 PM	Ready for review 97:43...	Oct 12, 2016 11:10 PM
FP_2016_BS_03_CC_023	Ebbrecht, Stephanie (S...	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 97:42...	Feb 18, 2017 09:02 PM
FP_2016_BS_03_CC_008	Balak, Natassia (SBU)	Global FinPrint Project	Oct 11, 2016 08:10 PM	Ready for review 93:03...	Feb 07, 2017 08:02 PM

Video Playback Controls (Leads)

Leads and SuperUsers will have similar media controls to Annotators, except a '3x Playback' button is also enabled. Additionally, these users can use the time slider, or click on any observation/event in an Assignment to move directly to that point in the video.



To Review an Assignment

Click once on an assignment to highlight it.

A screenshot of the 'finprint_annotator' application window. The top bar shows the application name and a close button. Below it are several filter dropdowns: 'FP_2016_BS_03', '--- Filter by Reef ---', '--- Filter by Set ---', '--- Filter by Annotator ---', 'Ready for Review' (highlighted with a yellow circle), and '--- Affiliation ---'. There are also checkboxes for 'Limit to assignments made by me' and buttons for 'Reset' and 'Search'. The main section is titled 'Assignments (52)' and contains a table with the following data:

Set/video name	Annotator	Project name	Date assigned	Status	Last activity
FP_2016_BS_03_CC_018	Conover, Makenzie (S...	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 93:14...	Feb 22, 2017 04:02 AM
FP_2016_BS_03_CC_020	Diehl, Olivia (SBU)	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 94:55...	Mar 13, 2017 01:03 AM
FP_2016_BS_03_CC_010	Johnson, Lila (SBU)	Global FinPrint Project	Oct 05, 2016 07:10 PM	Ready for review 104:5...	Feb 06, 2017 08:02 PM
FP_2016_BS_03_CC_010	Murphy, Conor (SBU)	Global FinPrint Project	Feb 13, 2017 04:02 PM	Ready for review 104:5...	Mar 18, 2017 09:03 PM

The first row of the table is highlighted with a yellow circle.

Double-click to open it.

The video will automatically open, but will not begin playback.

Accept/Reject assignment buttons

Video playback screen

Media controls

Observations table

Time	Organism	Tags	MaxN	Observation Note	Duration
05:44:345	Coney grouper (Cephalopholis fulva)				1
04:31:072	Unknown Bony Fish (Unknown Bony Fish)				1
04:15:340	Coney grouper (Cephalopholis fulva)				1
03:56:945	Mutton snapper (Lutjanus analis)				1
02:35:848		MARK ZERO TIME			

To Assess/Edit Observation Events

You can use the Observations table to navigate directly to any given Event. Each Observation is listed in reverse chronological order (ie the MARK ZERO TIME observation is listed at the bottom). Click once on an Event to highlight it. Right-click to open a pop-up menu. From there, click on 'Go To Event'.

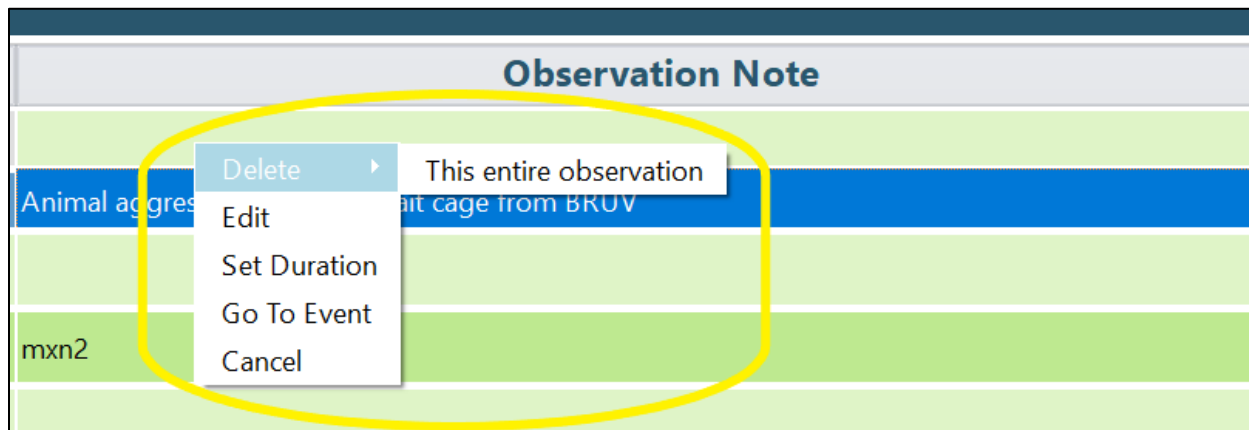
0.5x 1.5x 3x

Image notes	Tags
	MARK H...
	Bait Gone
	Passing
	Attracted, Aggressive
	MARK ZE...

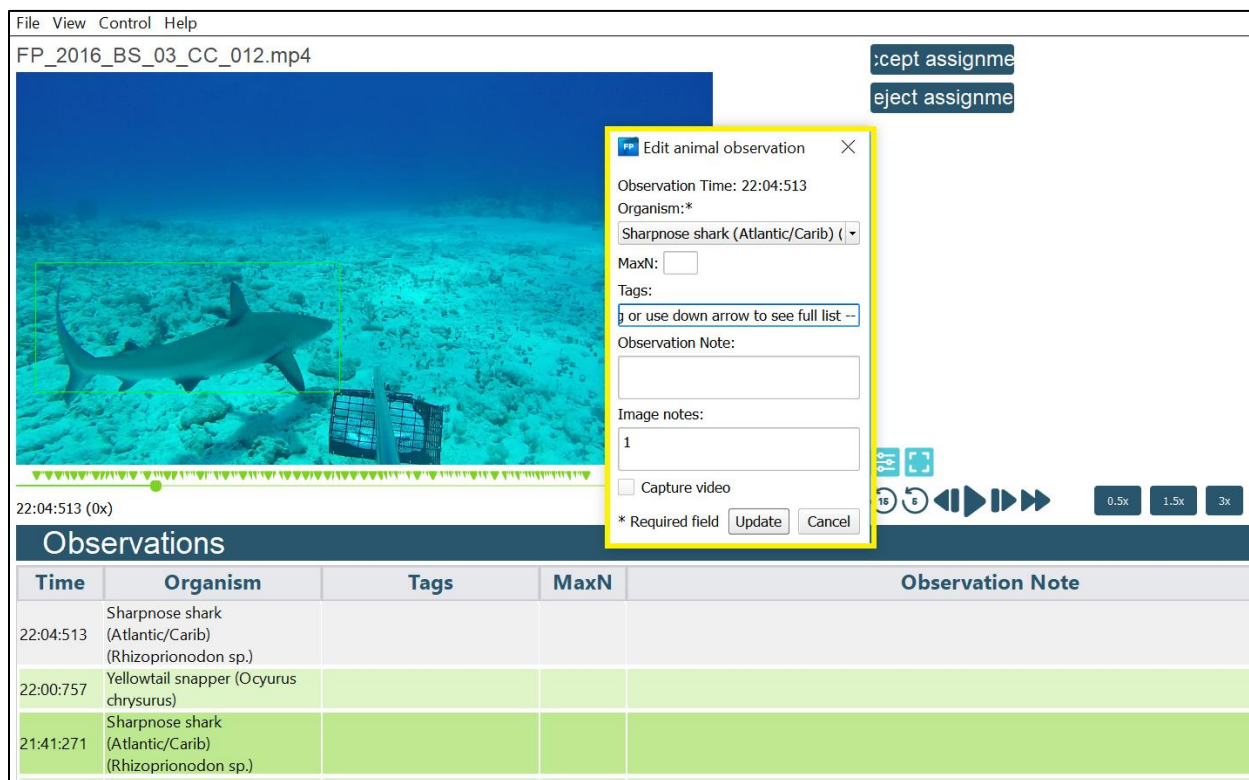
Delete
Edit
Set Duration
Go To Event
Cancel

7:14 AM

The video will automatically be set to the time of the event, but will not begin playback. You can right-click on any non-animal event to: [Go to the Event](#); [Edit the Event](#), [Delete \(the Event\)](#), or [Set Duration](#). Clicking 'Cancel' will exit the pop-up menu.



If you select 'Edit', a pop-up window will appear (see below).



Make any changes needed, and click 'Update' to proceed. Click 'Cancel' to exit without saving any changes.

FP Edit non-animal observa... X

Observation Time: 65:02:069

Tags:
Bait Gone

Bait Gone (X)

Observation Note:
Animal aggressively removed bait cage from BRUV

Image notes:

☐ Capture video

* Required field Update Cancel

For Animal Events, a further option to 'Change the organism' will be available. This will provide a drop-down list of available organisms to choose from (see below).

02:19:076 (0x)

Observations

Time	Organism	
110:56:628		
65:02:069	Animal aggres	
61:15:683	Bl lin	us
60:20:985	N ci	am
52:03:911	N ci	
02:19:076		

- Delete
- Edit
- Set Duration
- Go To Event
- Change organism
- Cancel

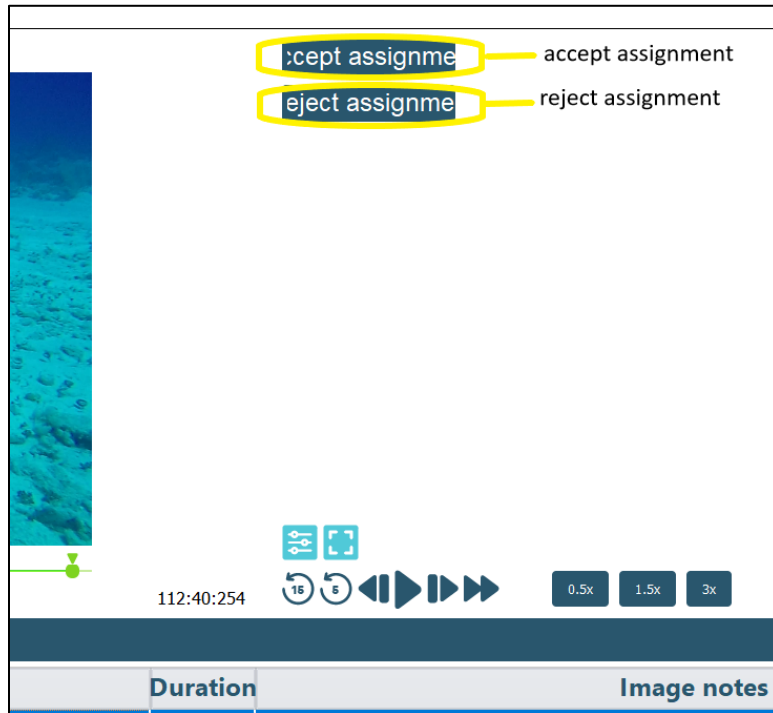
- Ray
- Cephalopod
- Reptile
- Moray
- Mammal
- Shark
- Bony fish

Type here to search

When you select the correct Organism, the Event will automatically be updated. You do not need to save changes made in this way.

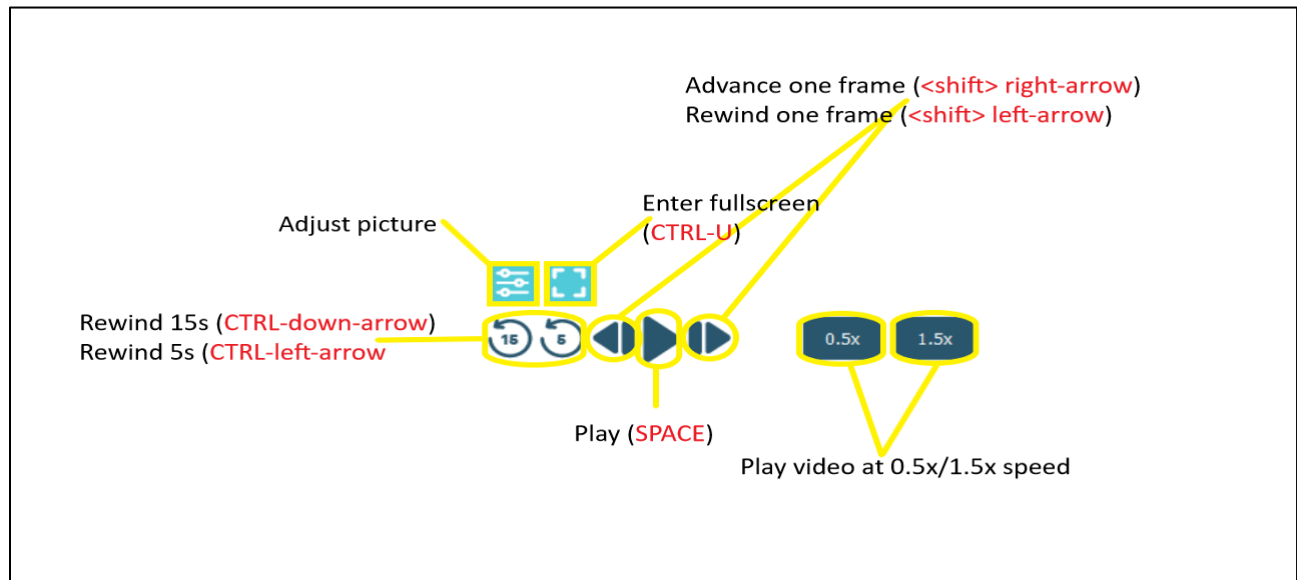
Accepting/Rejecting Assignments

When you have finished reviewing a video, click on either 'Accept assignment' or 'Reject assignment' to proceed.



Updates will automatically be made to the Fingerprint Global website.

Quick-Start Media Controls



Menu Shortcuts:

Keyboard shortcuts are marked in this guide in red.

CTRL-L = Open assigned set list

CTRL-P = Edit video folder properties

CTRL-F (Leads only) = Open assignments filter menu

CTRL-Q = Quit application

CTRL-H = Help/Open User Guide

In-video Shortcuts:

CTRL-U = Enter/Exit Fullscreen mode (when video is loaded)

SPACE = Play/Pause video

CTRL-↓ = Rewind 15s

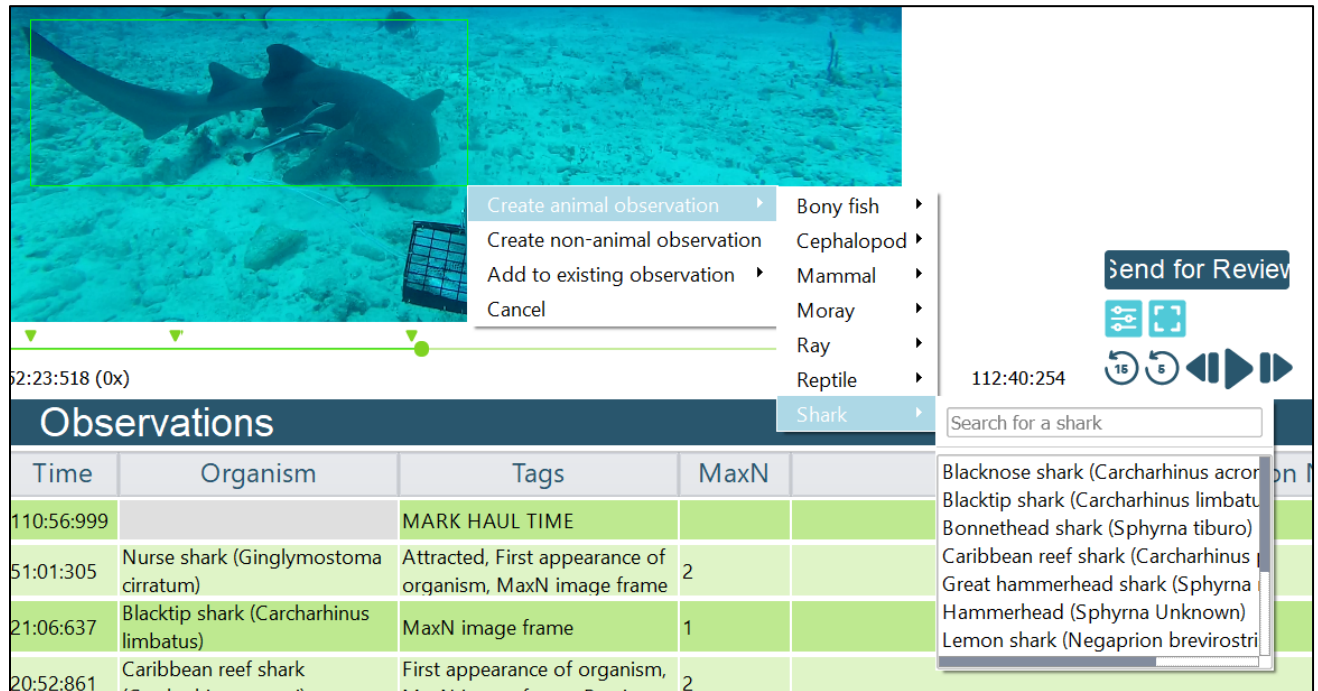
CTRL-← = Rewind 5s

SHIFT-→ = Advance one frame

SHIFT-← = Rewind one frame

Mouse and on-screen buttons

Mouse commands and on-screen buttons (eg 'Save') are marked in this guide in green. For example, 'Click-and-drag' a rectangle around the animal...

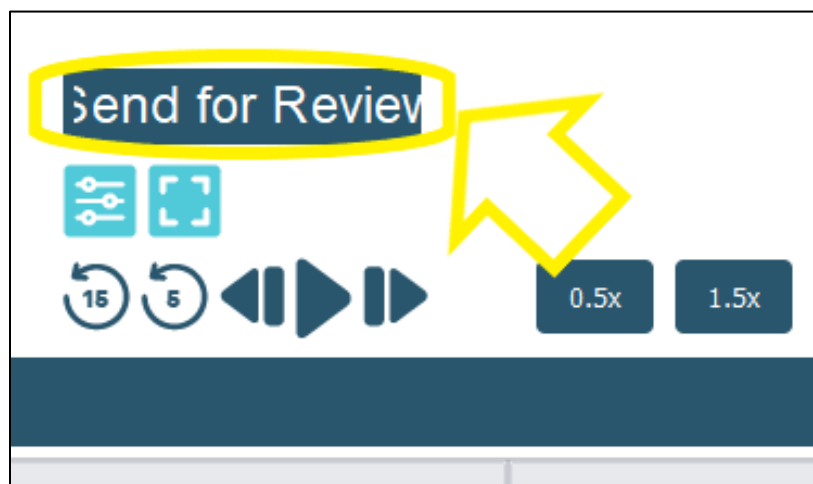


The screenshot shows a video player interface for shark observations. A green rectangle is drawn around a shark in the video frame. A context menu is open, showing options to create or add observations. Below the video, there is a table of observations.

Time	Organism	Tags	MaxN
110:56:999		MARK HAUL TIME	
51:01:305	Nurse shark (<i>Ginglymostoma cirratum</i>)	Attracted, First appearance of organism, MaxN image frame	2
21:06:637	Blacktip shark (<i>Carcharhinus limbatus</i>)	MaxN image frame	1
20:52:861	Caribbean reef shark	First appearance of organism,	2

On the right, there is a search bar for sharks and a list of species including Blacknose shark, Blacktip shark, Bonnethead shark, Caribbean reef shark, Great hammerhead shark, Hammerhead, and Lemon shark.

...or click on 'Send for Review'.



Annotator setup and troubleshooting for Windows 10

Before opening the Annotator application, ensure the machine is set up for optimal performance. This can have a significant effect on performance.

Close unnecessary applications

Close any applications including email, productivity applications (Excel, Word, etc.), web browser, etc. that may be running - unless necessary for annotation. Users often have a browser or application open to reference a species guide. This is fine as long as it doesn't appear to affect video playback. If playback is not smooth, then you may need to close the browser/ application in between use, or use a secondary device (i.e. tablet, phone) for the species guide.

Set display resolution

Set the display resolution between 1920 X 1080 and 1280 X 960

The optimal resolution for the Annotator is typically **1920 x 1080**. Higher resolutions can cause playback issues. Lower resolutions down to 1280 x 960 are often acceptable, but may result in the observation table not fitting on screen in normal view mode (requiring horizontal scrolling). Anything less will typically result in text being truncated from controls.

To set resolution:

- a. Go to the desktop and right-click the mouse
- b. Select 'Display settings'
- c. Click on the 'Advanced display settings' link towards the bottom of the screen.
- d. Under 'Resolution' menu select '1920 x 1080' or, if necessary, a lower resolution at or above '1280 x 960'

Or:

- a. Go to the desktop and right-click the mouse
- b. Select 'Display settings'
- c. Select '1920 x 1080' from the 'Resolution' drop-down menu

Set Power Saver

Confirm the Power Saver setting is set to 'Balanced' or 'High Performance'

To check current Power Saver settings, click on the 'Battery' icon on the right-hand side of the toolbar. Power Mode will be displayed. In some versions of Windows you can adjust the 'Power Mode' slider to 'High Performance' from here. Otherwise, click on 'Power and Sleep Settings' then 'Advanced Settings' to view current Power Saver settings.

For Windows 10 machines, you can adjust the Power Saver settings via ONE of the following:

Computer settings

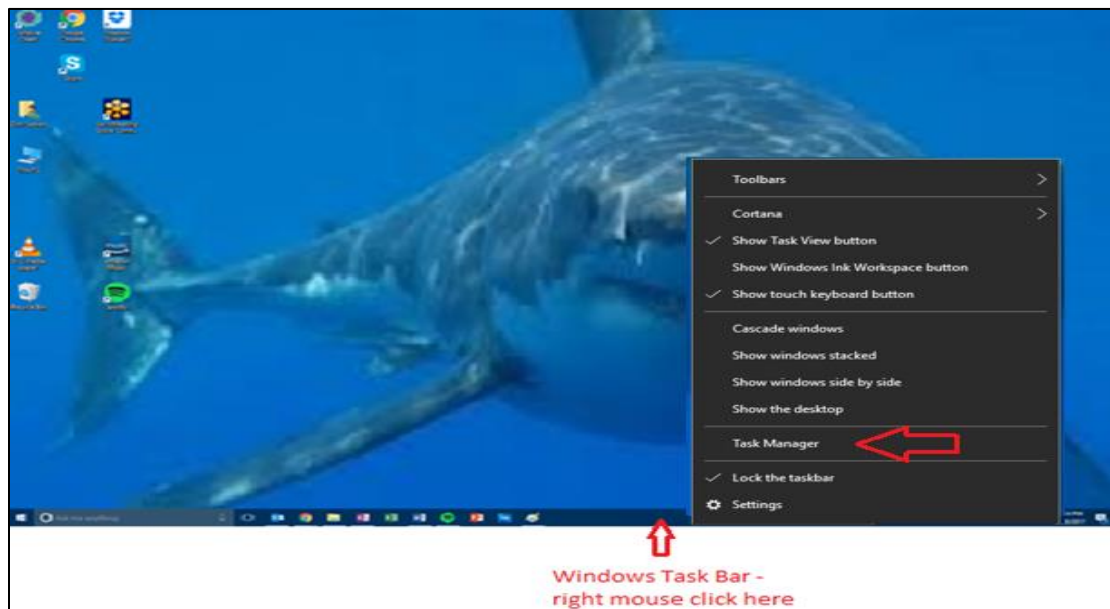
- Click the Windows/Start icon in the lower-left corner of the Windows Task Bar at the bottom of the screen
- Click the Settings icon (looks like a gear)
- Click 'System'
- Click 'Power and Sleep' from the menu on the left
- Click the 'Additional Power Settings' link
- Select either 'High Performance' or 'Balanced'

Or Control panel

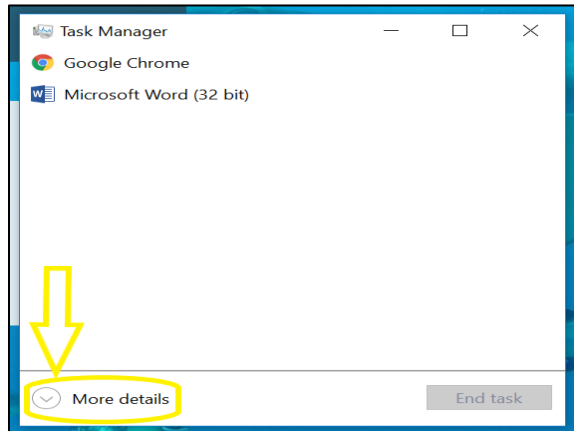
- Click the Windows/Start icon in the far-left corner of the Windows Task Bar at the bottom of the screen and type "control panel" **OR** type "control panel" into the Cortana input box in the lower left part of the Windows Task Bar.
- Click on 'System and Security'
- Click on 'Power Options'
- Select either 'High Performance' or 'Balanced'

Disable antivirus scan

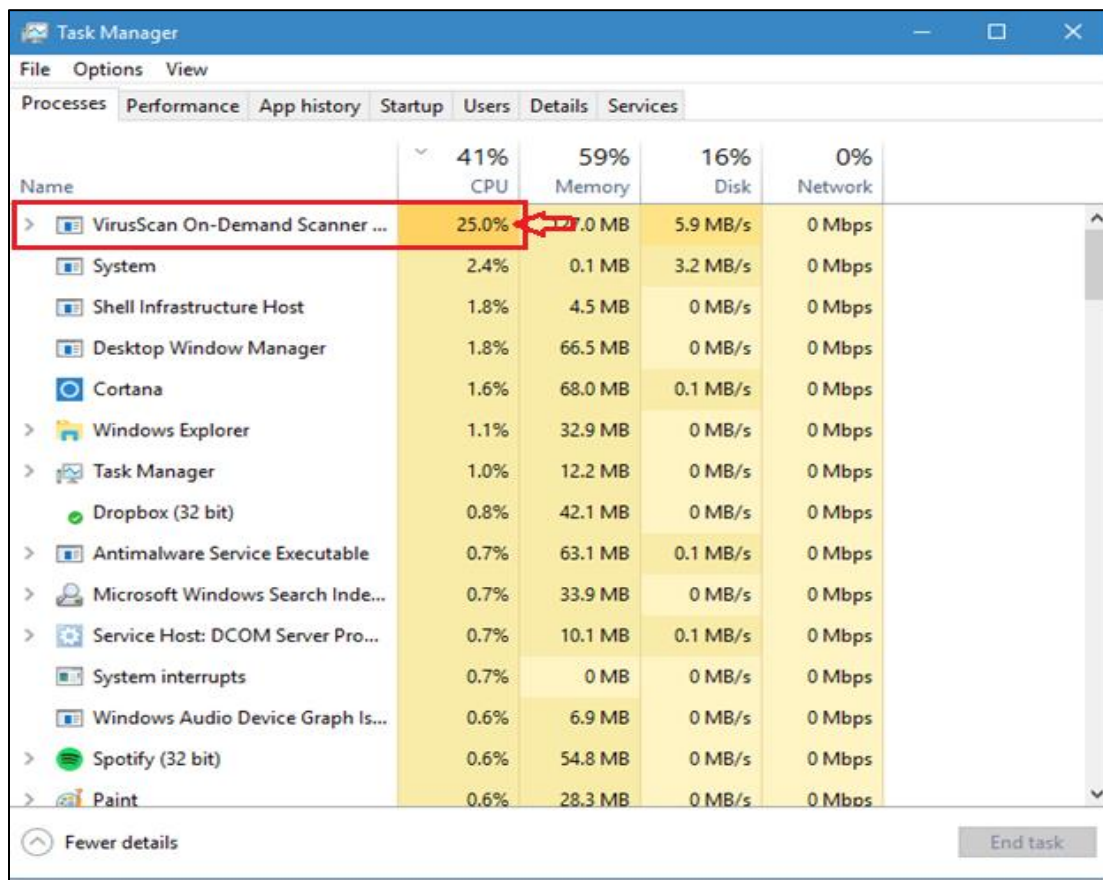
If antivirus software is actively running a scan of the computer it can have a significant impact on its performance and the ability to play videos in the Annotator smoothly. If the antivirus software is currently running a scan, disable it. Open 'Task Manager'. Right-click on the Windows Task Bar at the bottom of the screen and select 'Task Manager' from the pop-up menu. (see below.)



To expand the Task Manager menu, click 'More Details'.

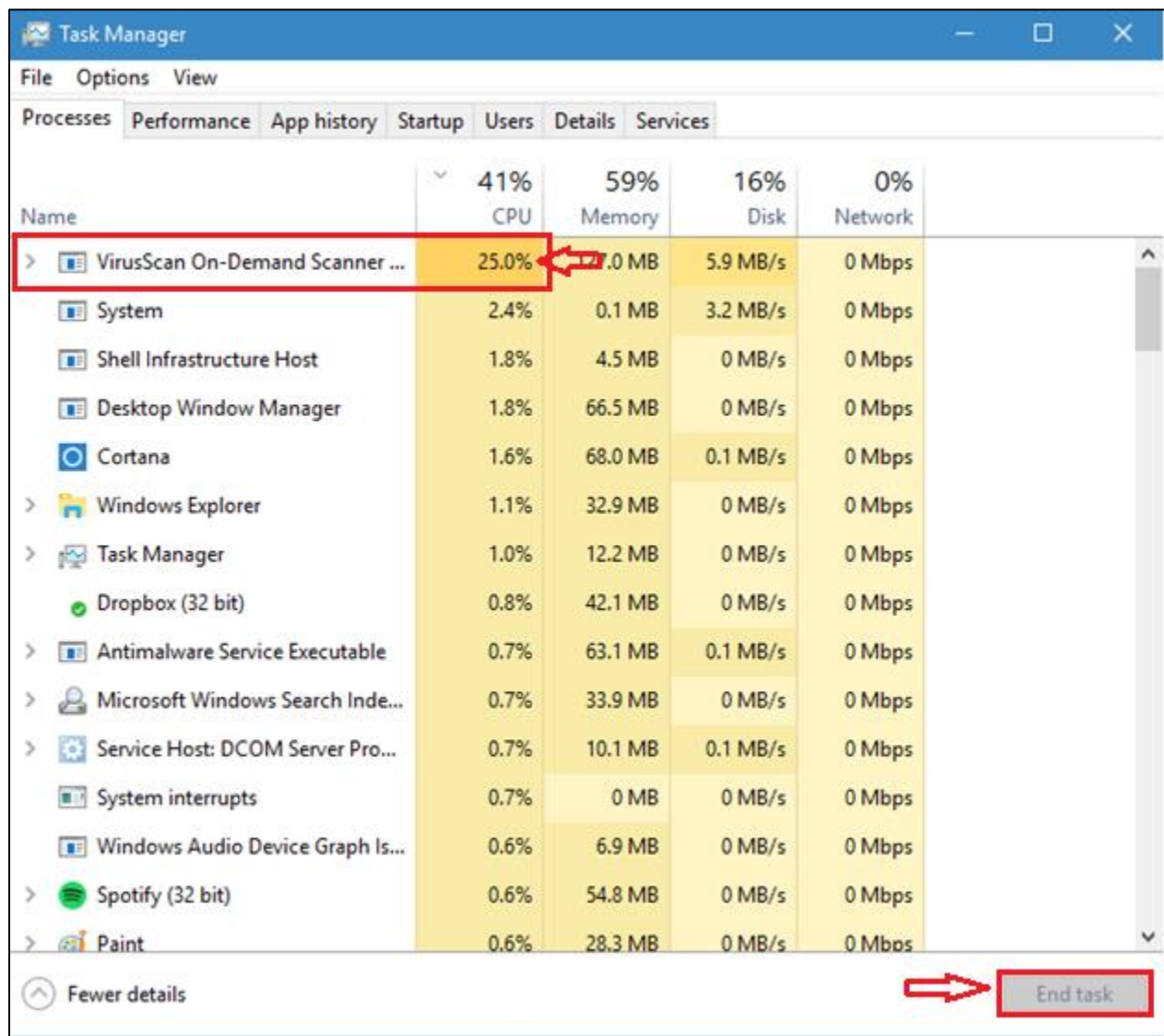


If your antivirus is running a scan, it should appear at or very near the top of the Task Manager list of processes (which should sort by default in order of the processes consuming the most CPU power.) You should see something like the following:



(NOTE: Depending on the specific antivirus software you have, you may see a variation of this, but it should be clear that an antivirus scan is running and consuming a significant amount (>10%) of CPU resources.)

To stop the antivirus software from running a scan, click on the virus scan item in the list and then click on the “End task” button in the bottom right corner of the Task Manager.



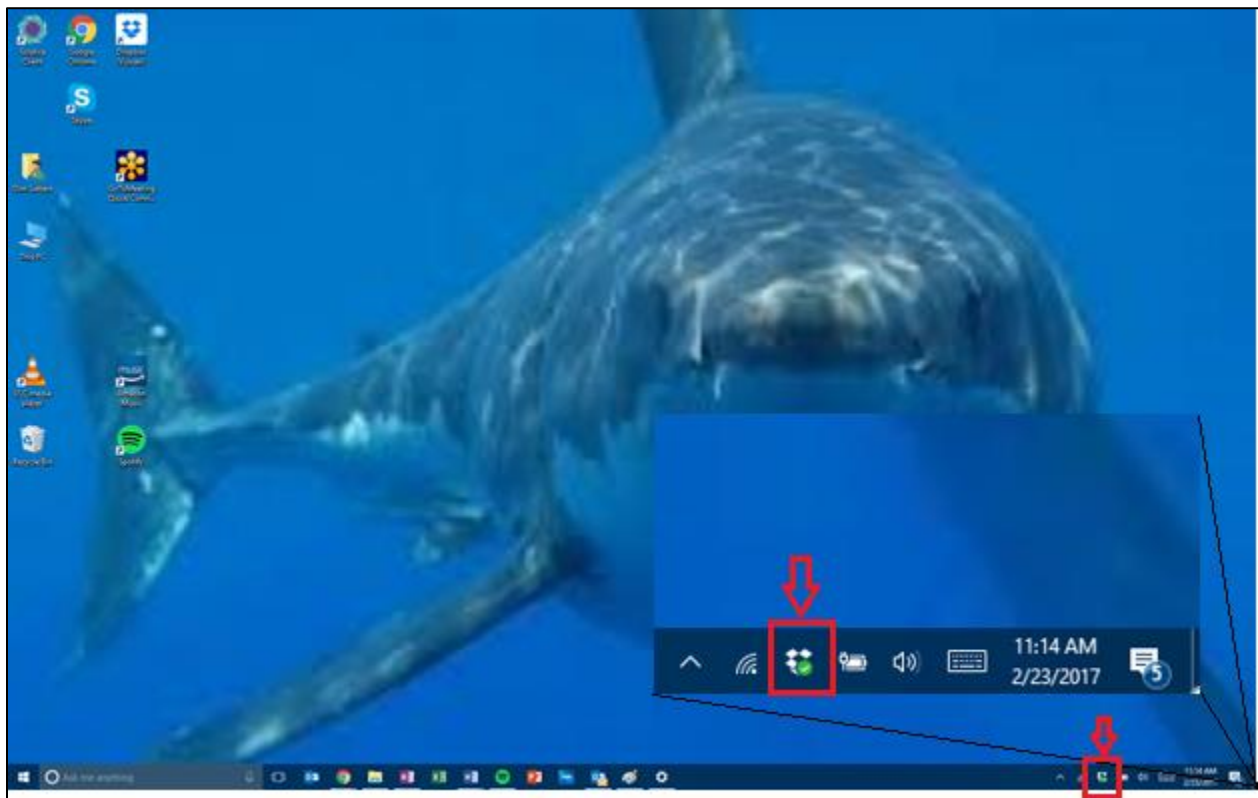
NOTE: Anti-virus scan software is typically configured to run scans periodically, so stopping a scan that's currently running will not prevent future scheduled scans from running.

Disable the syncing service of applications such as Dropbox, Google Drive, and Microsoft OneDrive

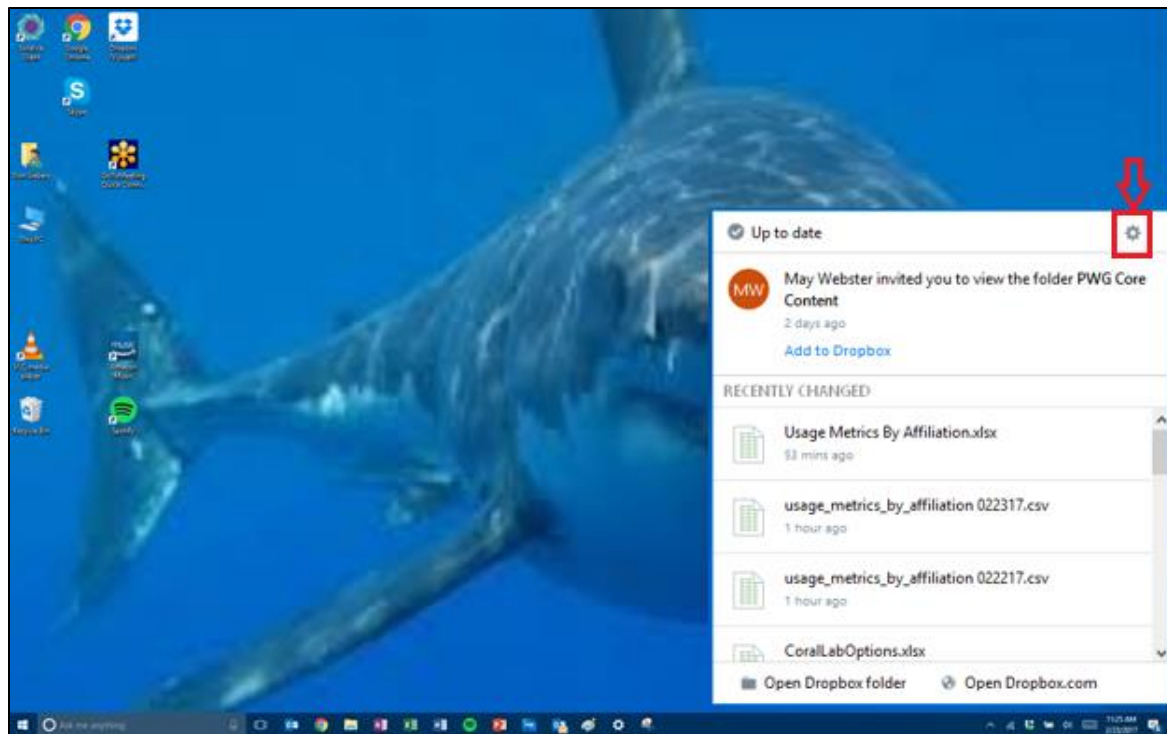
Popular cloud-based file management software such as those listed above will regularly scan the computer to see if changes were made to documents stored locally that need to be copied to the cloud. This synchronization process can affect the computer's performance and the ability to play videos in the Annotator smoothly. Disable this synchronization process temporarily while you are using the Annotator tool. Each different type of application will have its own unique way for disabling the sync service, but below is an example of how to do so for one of the more common cloud file services – Dropbox, as well as links to disabling Google Drive and Microsoft OneDrive. When you have finished using the Annotator, you can go back into the application settings and re-enable the sync process.

For Dropbox, for example, the synchronization process can be disabled via the following steps:

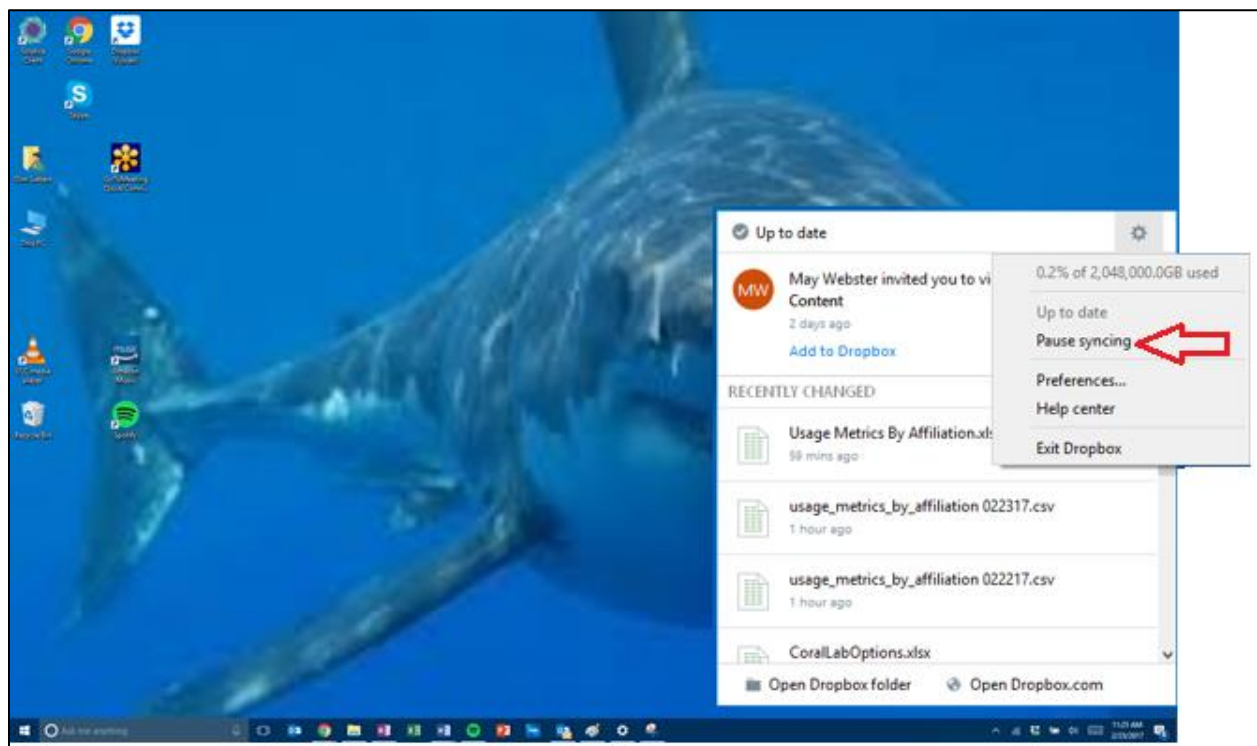
If Dropbox is running on your machine, you should see an application icon in the System Tray in the right-hand corner of the Windows Task Bar along the bottom of the computer screen. Click on this icon to pull up a Dropbox menu.



Click on the Settings icon (looks like a gear) in the upper right corner of the menu that appears.



Click on “Pause syncing” from the settings menu that appears



Once you have finished using the Annotator tool, you can go back into the Dropbox application settings in the same manner and select “Resume syncing” to re-enable the syncing process.

For Google Drive and Microsoft OneDrive, the following links provide instructions on how to disable the syncing process:

Google Drive – follow the steps in “Quit Google Drive” in the following on-line help:
<https://support.google.com/drive/answer/2375081?hl=en>

Microsoft OneDrive – follow the steps in “Disable OneDrive in Windows 8.1 and Windows 10” in the following on-line help: <https://support.office.com/en-US/article/Turn-off-or-uninstall-OneDrive-f32a17ce-3336-40fe-9c38-6efb09f944b0?ui=en-US&rs=en-US&ad=US&fromAR=1>

(NOTE: For Microsoft OneDrive follow the same instructions but choose “Disabled” in the final step, in order to re-enable file syncing.)

For technically advanced users

Disable other applications/background processes that are consuming a significant amount of CPU resources.

NOTE: if you are not comfortable with making advanced changes, proceed to the section below on sending system information to your lead.

In addition to the troubleshooting steps outlined above, advanced users can review the list of applications and background processes running in Task Manager and disable those that are consuming a significant amount (> 5-10%) of CPU resources.

NOTE: This is recommended for more technically advanced users only. Caution should be taken to not disable any processes that might affect normal computer functioning.

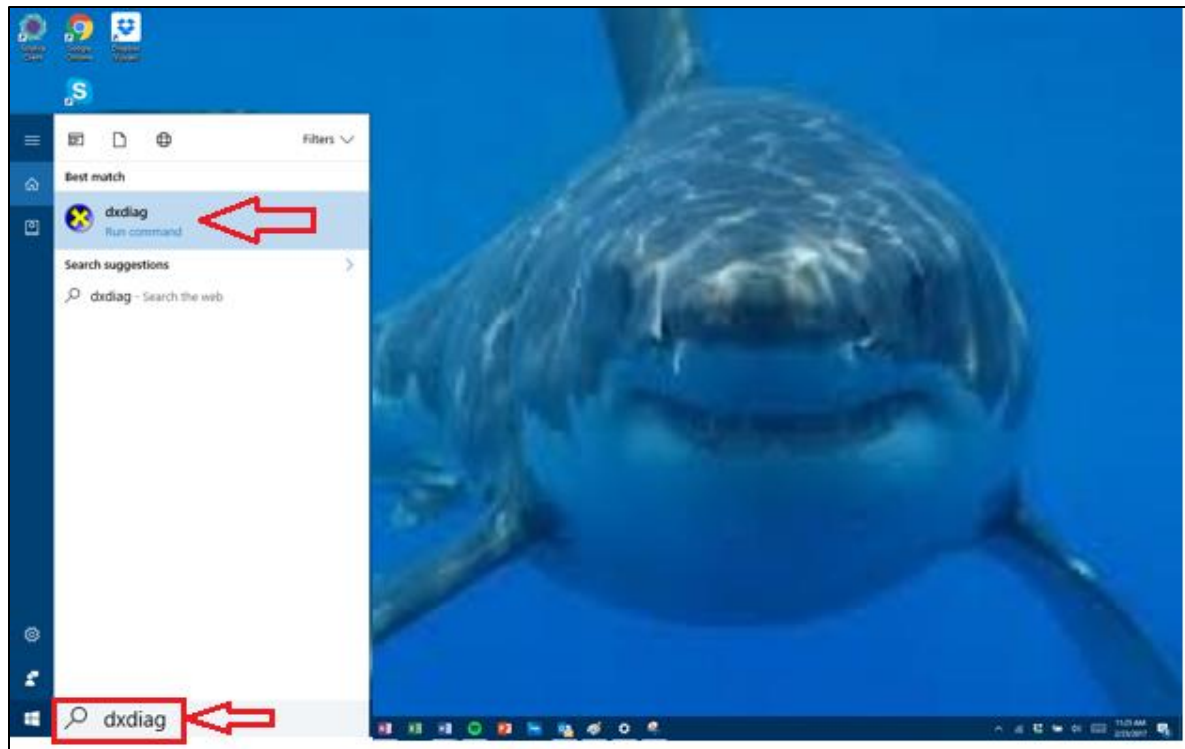
Additional Troubleshooting: Sending computer info to your Lead

If you are still experiencing playback issues, you can send two things to your FinPrint Lead that will help them troubleshoot the Annotator playback performance further. This information will help them identify whether there are resource limitations on your machine and/or another application may be interfering with its ability to play smoothly. These include a copy of your “DxDiag.txt” file and a screen shot of your Task Manager.

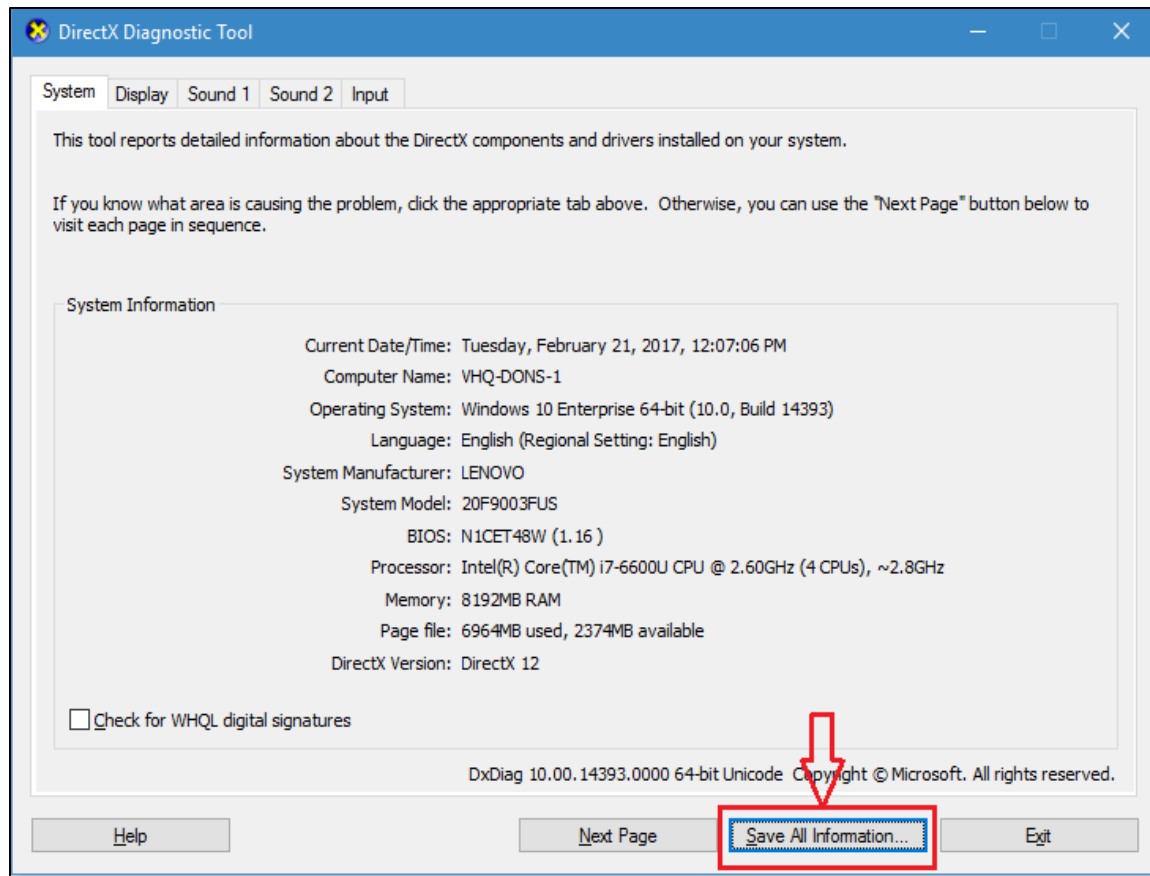
Create a “DxDiag.txt” File

This file can be created using the DirectX Diagnostic Tool that should already exist on your computer and will capture your computer’s system information.

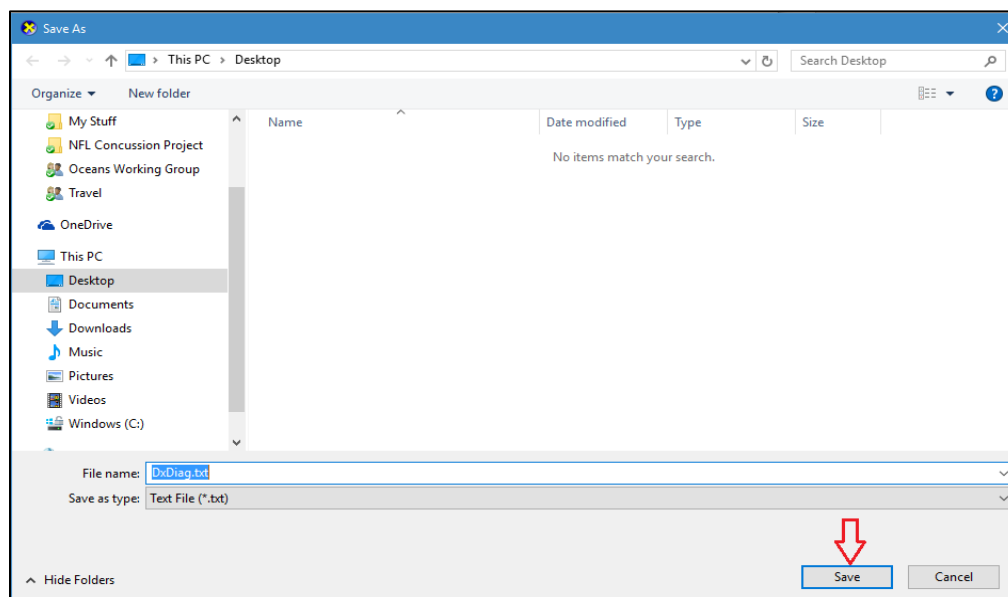
Click the Windows/Start icon in the far-left corner of your Windows Task Bar and type ‘dxdiag’ **OR** type dxdiag’ into the Cortana input box in your Windows Task Bar and select the ‘dxdiag (Run Command)’ in the results menu.



The DirectX Diagnostic Tool will start and an application screen will launch (see below). Click on the ‘Save All Information’ button at the bottom.



Save the Dxdiag.txt file to a location on your computer (Desktop is default).

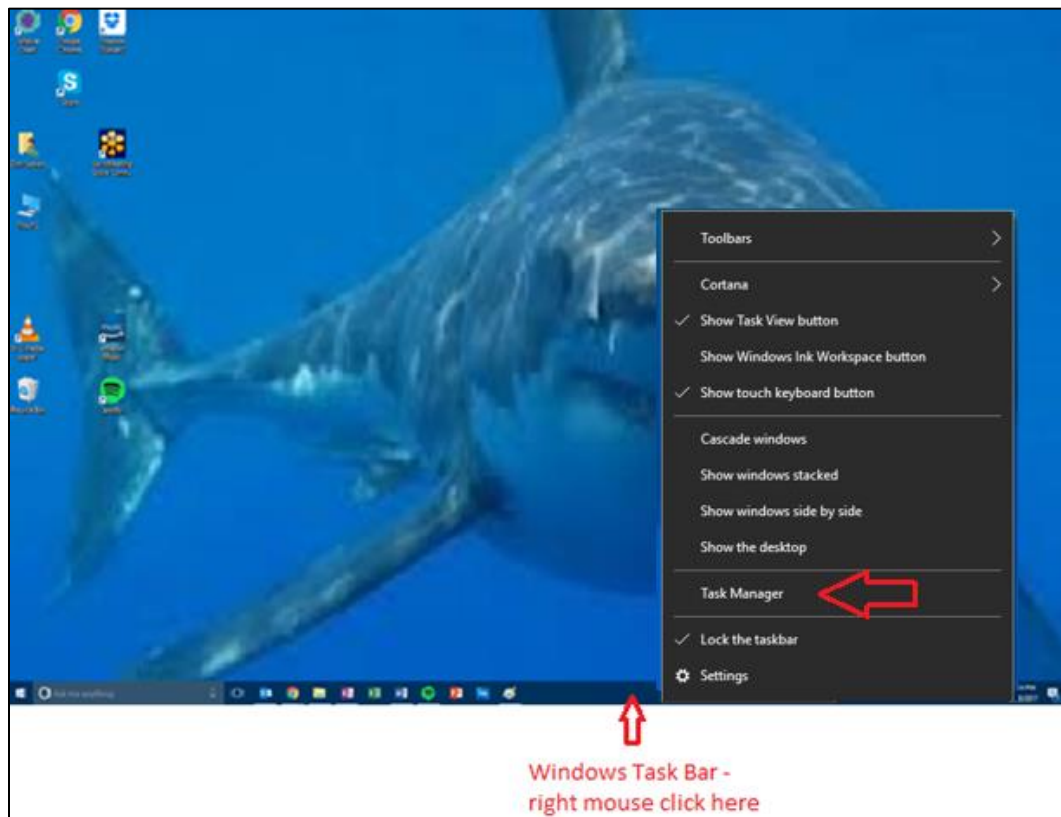


Email this Dxdiag.txt file to your FinPrint Lead. They will review your computer's system profile to determine what other next steps can be taken.

Create a screenshot of Task Manager

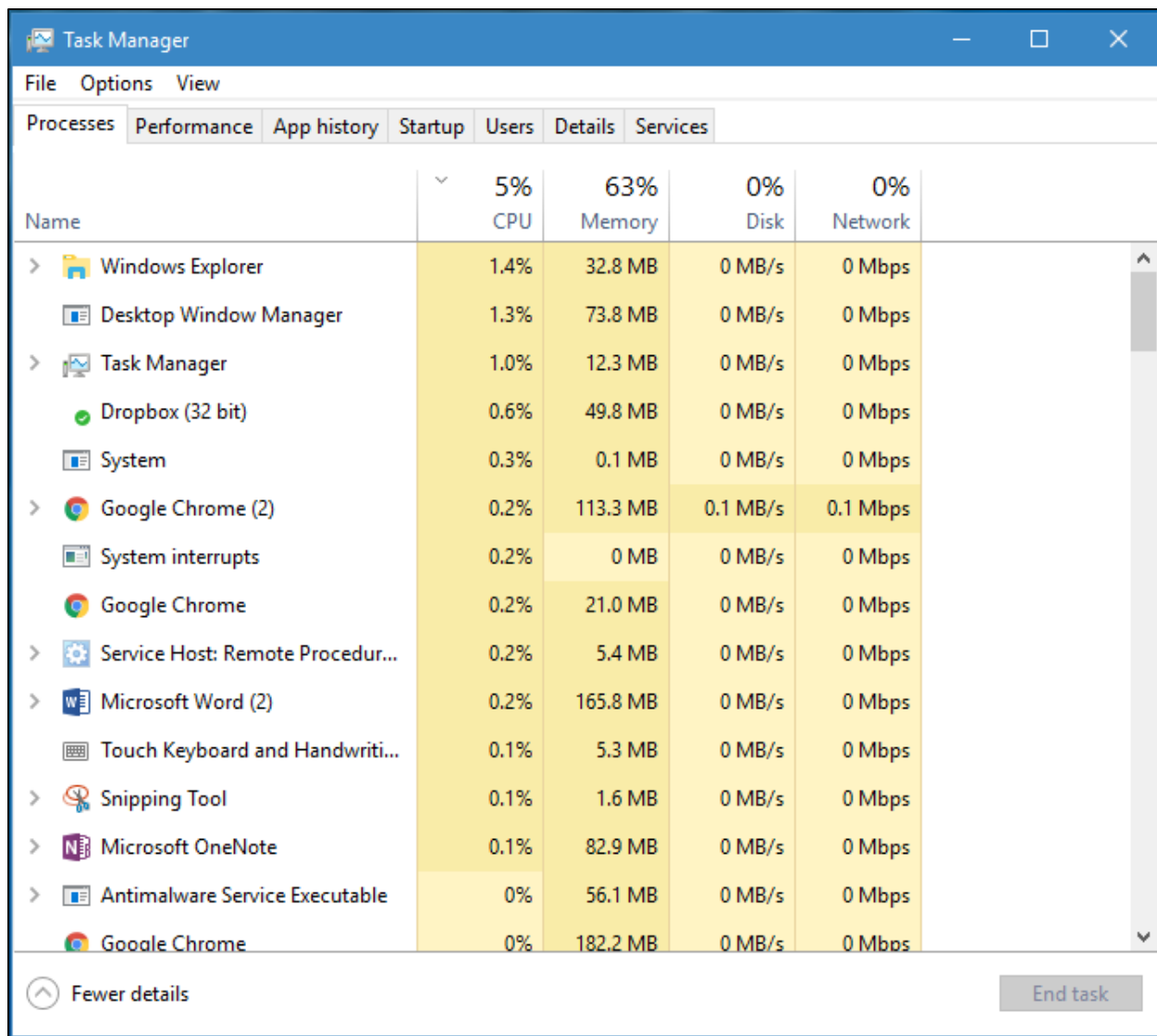
Task Manager will show other applications that could be interfering with the Annotator playing smoothly. Follow these steps to generate a screen shot of your Task Manager and send it to your FinPrint Lead.

Right-click on the Windows Task Bar at the bottom of your screen and select 'Task Manager' from the pop-up menu.



The Task Manager window will appear. Take a screen shot of your machine by finding and pressing the 'PrtScn' or 'PrtSc' or equivalent key on your keyboard.





The screenshot shows the Windows Task Manager window with the 'Performance' tab selected. The window title is 'Task Manager'. The menu bar includes 'File', 'Options', and 'View'. Below the menu bar are tabs for 'Processes', 'Performance', 'App history', 'Startup', 'Users', 'Details', and 'Services'. The 'Performance' tab displays a table of system resource usage. The table has five columns: 'Name', 'CPU', 'Memory', 'Disk', and 'Network'. The 'CPU' column shows 5%, 'Memory' shows 63%, 'Disk' shows 0%, and 'Network' shows 0%. The 'Name' column lists various processes, including Windows Explorer, Desktop Window Manager, Task Manager, Dropbox (32 bit), System, Google Chrome (2), System interrupts, Google Chrome, Service Host: Remote Procedur..., Microsoft Word (2), Touch Keyboard and Handwriti..., Snipping Tool, Microsoft OneNote, Antimalware Service Executable, and Google Chrome. The bottom of the window has a 'Fewer details' button and an 'End task' button.

Name	CPU	Memory	Disk	Network
Windows Explorer	1.4%	32.8 MB	0 MB/s	0 Mbps
Desktop Window Manager	1.3%	73.8 MB	0 MB/s	0 Mbps
Task Manager	1.0%	12.3 MB	0 MB/s	0 Mbps
Dropbox (32 bit)	0.6%	49.8 MB	0 MB/s	0 Mbps
System	0.3%	0.1 MB	0 MB/s	0 Mbps
Google Chrome (2)	0.2%	113.3 MB	0.1 MB/s	0.1 Mbps
System interrupts	0.2%	0 MB	0 MB/s	0 Mbps
Google Chrome	0.2%	21.0 MB	0 MB/s	0 Mbps
Service Host: Remote Procedur...	0.2%	5.4 MB	0 MB/s	0 Mbps
Microsoft Word (2)	0.2%	165.8 MB	0 MB/s	0 Mbps
Touch Keyboard and Handwriti...	0.1%	5.3 MB	0 MB/s	0 Mbps
Snipping Tool	0.1%	1.6 MB	0 MB/s	0 Mbps
Microsoft OneNote	0.1%	82.9 MB	0 MB/s	0 Mbps
Antimalware Service Executable	0%	56.1 MB	0 MB/s	0 Mbps
Google Chrome	0%	182.2 MB	0 MB/s	0 Mbps

After capturing the screen print, paste it into a Microsoft Word (or equivalent word processor) document, save the document file on your machine, and email the document to your FinPrint Lead as an attachment. Saving it within a Word document makes it easier to zoom in on and read.

Annotator setup and troubleshooting for Windows 8

Before opening the Annotator application, ensure the machine is set up for optimal performance. This can have a significant effect on performance.

Close unnecessary applications

Close any applications including email, productivity applications (Excel, Word, etc.), web browser, etc. that may be running unless necessary for annotation. Users often have a browser or application open to reference a species guide. This is fine as long as it doesn't appear to affect video playback. If playback is not smooth, then you may need to close the browser/application in between use, or use a secondary device (i.e. tablet, phone) for the species guide.

Set display resolution

Set the display resolution between 1920 X 1080 and 1280 X 960

The optimal resolution for the Annotator is typically **1920 x 1080**. Higher resolutions can cause playback issues. Lower resolutions down to 1280 x 960 are often acceptable, but may result in the observation table not fitting on screen in normal view mode (requiring horizontal scrolling). Anything less will typically result in text being truncated from controls.

To set resolution:

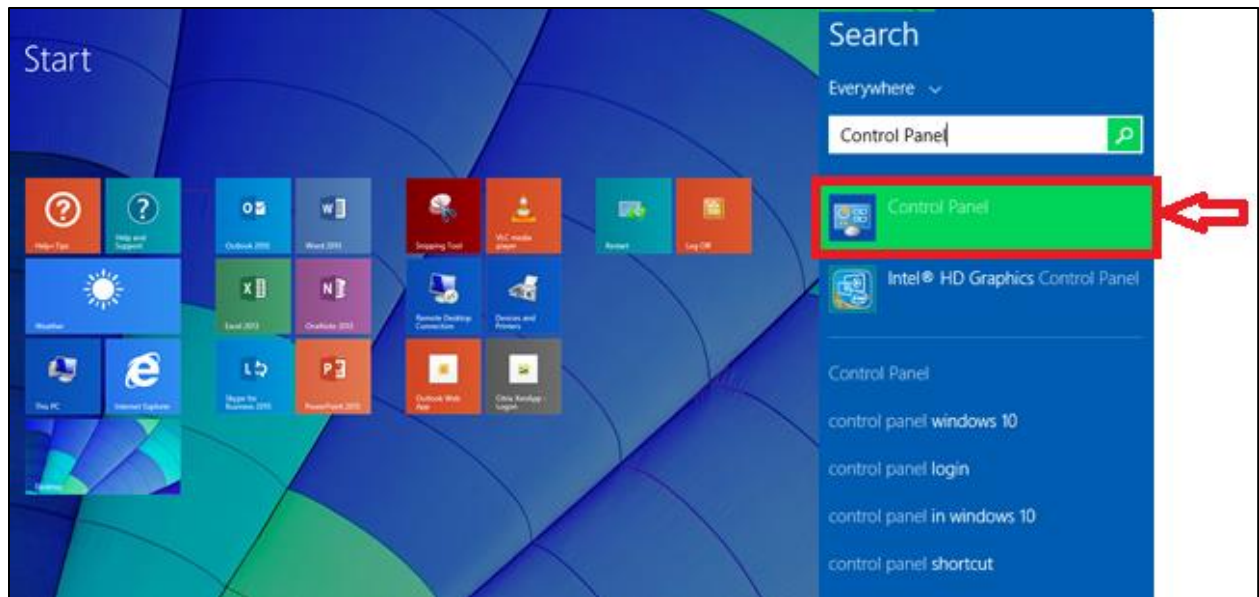
- a. Go to your desktop and right click on your mouse
- b. Select "Screen resolution"
- c. Under the "Resolution" menu select "1920 x 1080" or, if necessary, a lower resolution at or above "1280 x 960".

Set Power Saver

Confirm the Power Saver setting is set to 'Balanced' or 'High Performance'

For Windows 8 machines, you can adjust your Power Saver settings via the following:

- a. Click the Windows/Start icon in the far left corner of your Windows Task Bar at the bottom of your screen and type "control panel".
- b. You should see the Windows search panel open in the upper right corner of your screen. Choose the "Control Panel" application that should appear at the top of the list



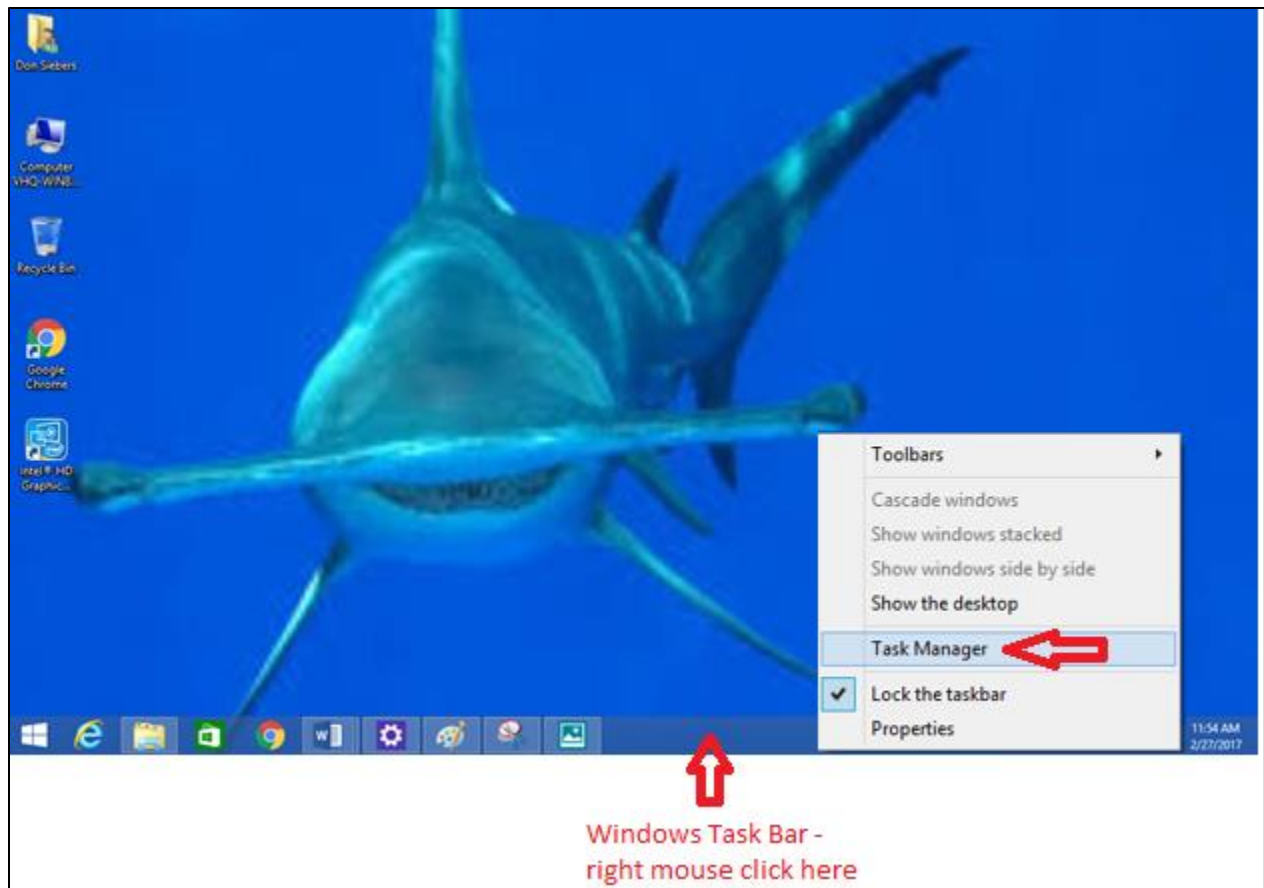
- c. From the Control Panel screen, click on the “System and Security” text link at the top.
(**NOTE:** This assumes your Control Panel view is by “Category”. If the view is by “Large icons” or “Small icons”, then you should see a “Power Options” icon, which you should click on instead)
- d. From the “System and Security” screen, click on the “Power Options” text link.
- e. Select either “Balanced” or click on the down arrow to “Show additional plans” and select “High Performance”. Typically the “Balanced” option is sufficient.

Disable antivirus scan

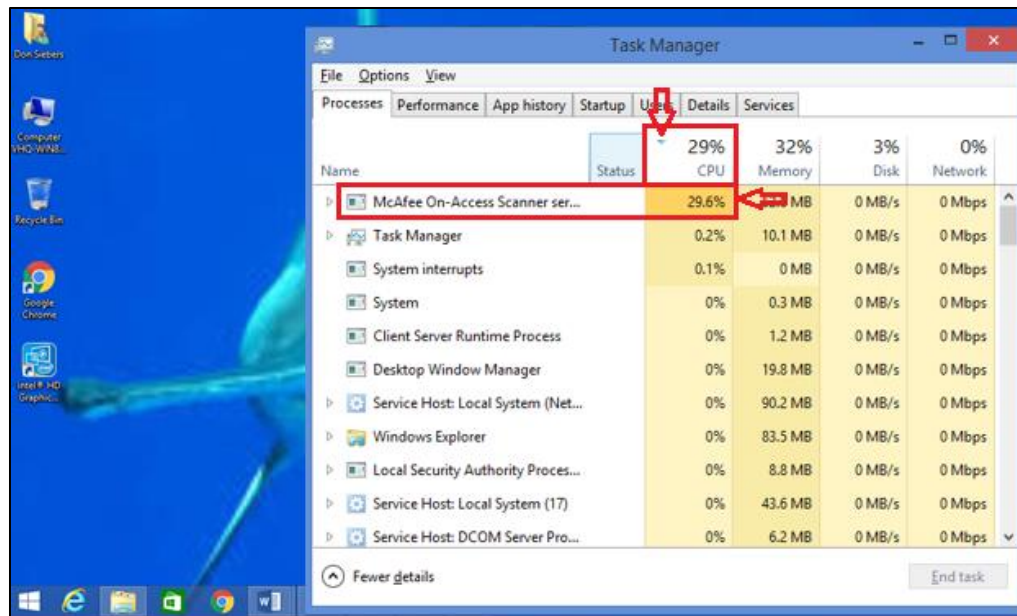
Confirm your anti-virus software is not currently running a scan of your computer

If your antivirus software is actively running a scan of your computer it can have a significant impact on its performance and the ability to play videos in the annotator smoothly. You can check if your antivirus software is currently running a scan and, if so, disable the scan by following these steps:

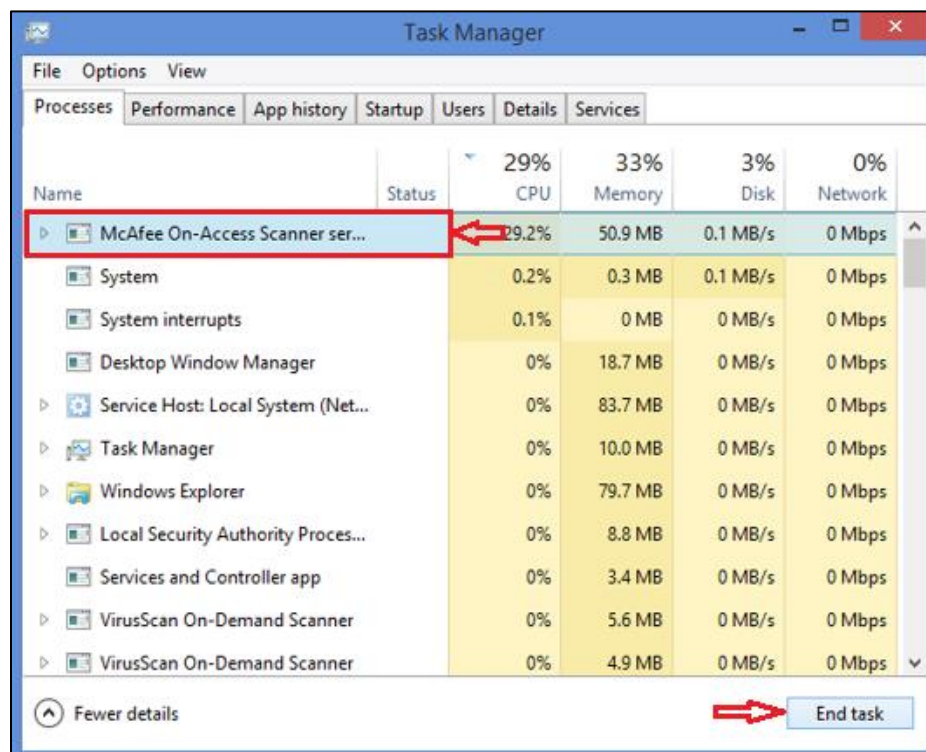
- 1) Open your computer’s “Task Manager” in order to see currently running programs and services by doing the following:
 - a. Right click on the Windows Task Bar at the bottom of your screen and select “Task Manager” from the pop-up menu



- b. If your antivirus is running a scan, it should appear at or near the top of the Task Manager list of processes. Click on the “CPU” Column header once or twice to ensure it’s sorting the list of items in descending order by CPU% (as indicated by small grey down arrow shown below). If a scan is running you should see something like the following (NOTE: Depending on your specific antivirus software you may see a variation of this, but it should be clear that an antivirus scan is running and consuming a significant amount ($> 10\%$) of CPU resources.)



- c. To stop your antivirus software from running a scan, you can click on the virus scan item in the list and then click on the “End task” button in the bottom right corner of the Task Manager. **NOTE:** Anti-virus scan software is typically configured to run scans periodically, so stopping a scan that’s currently running will not prevent future scheduled scans from running.

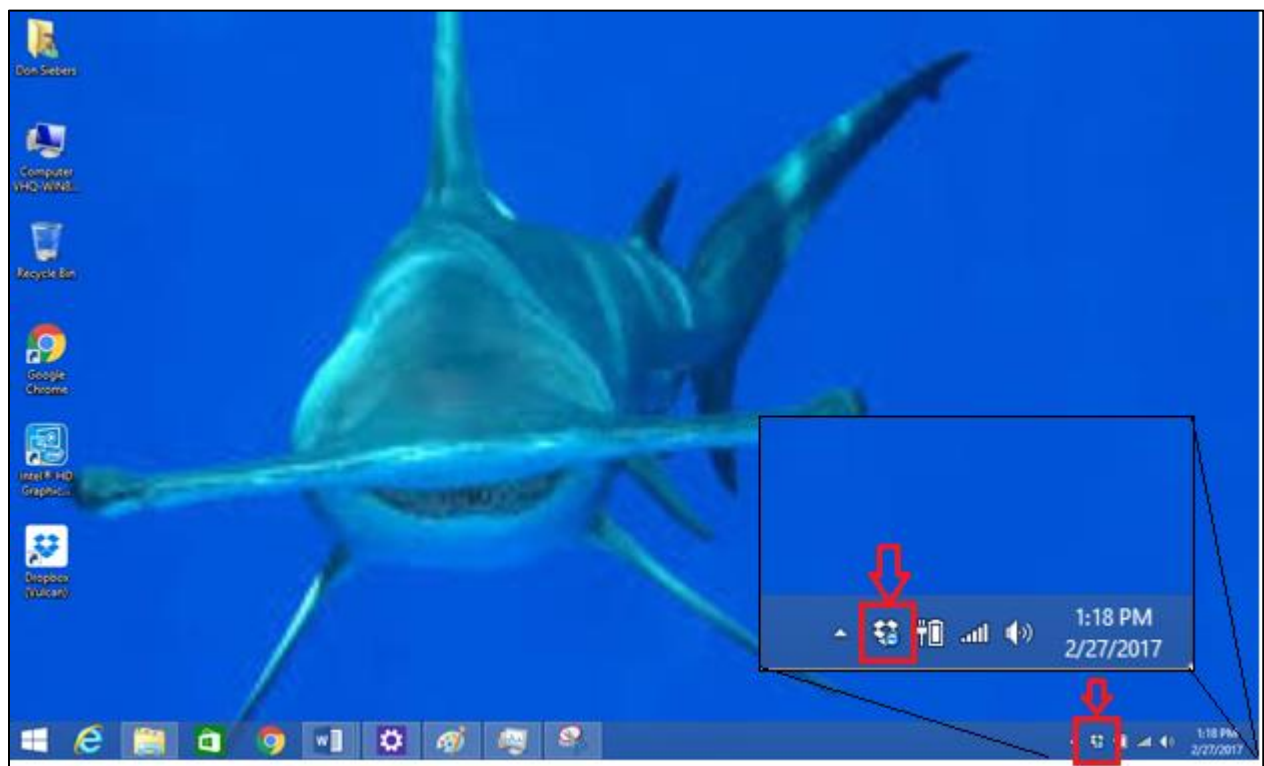


Disable the syncing service of applications such as Dropbox, Google Drive, and Microsoft OneDrive

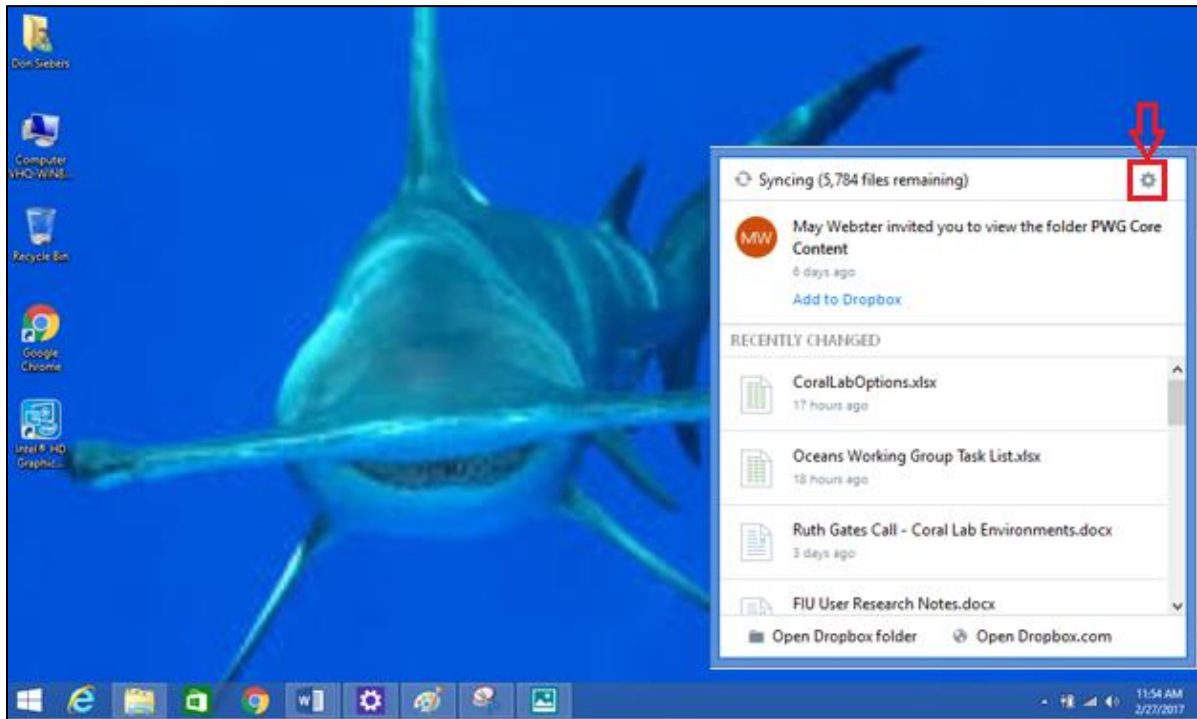
Popular cloud-based file management software such as those listed above will regularly scan your computer to see if changes were made to documents stored locally that need to be copied up to the cloud. This synchronization process can affect your computer's performance and the ability to play videos in the annotator smoothly. You can disable this synchronization process temporarily while you are using the annotator tool. Each different type of application will have its own unique way for disabling the sync service, but below is an example of how to do so for one of the more common cloud file services – Dropbox, as well as links to disabling Google Drive and Microsoft OneDrive. After you are finished using the annotator, you can go back into the application settings and re-enable the sync process.

For Dropbox, for example, the synchronization process can be disabled via the following steps:

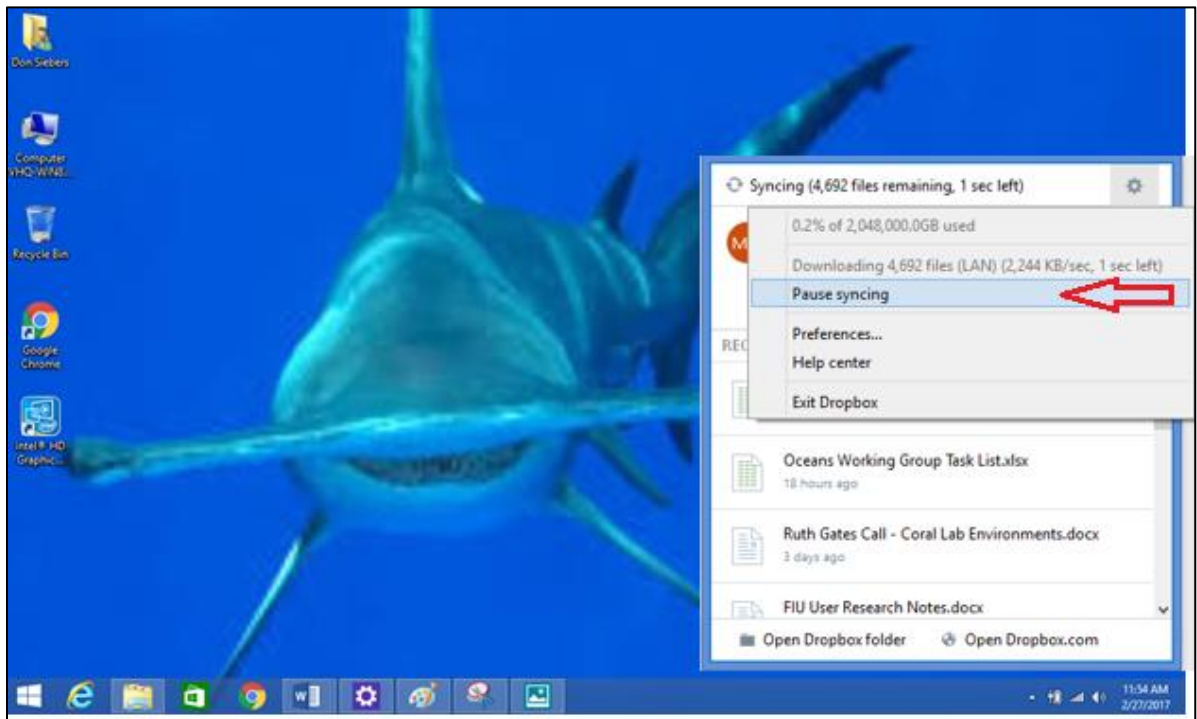
- 1) If Dropbox is running on your machine, you should see an application icon in the System Tray in the right hand corner of the Windows Task Bar along the bottom of your computer screen. Click on this icon to pull up a Dropbox menu.



2) Click on the Settings icon (looks like a gear) in the upper right corner of the menu.



3) Click on "Pause syncing" from the settings menu that appears as follows:



- 4) Once you are done using the annotator tool, you can go back into the Dropbox application settings in the same manner and select “Resume syncing” to re-enable the syncing process.

For Google Drive and Microsoft OneDrive, the following links provide instructions on how to disable the syncing process:

- Google Drive – follow the steps in “Quit Google Drive” in the following on-line help: <https://support.google.com/drive/answer/2375081?hl=en>
- Microsoft OneDrive – follow the steps in “Disable OneDrive in Windows 8.1 and Windows 10” in the following on-line help: <https://support.office.com/en-US/article/Turn-off-or-uninstall-OneDrive-f32a17ce-3336-40fe-9c38-6efb09f944b0?ui=en-US&rs=en-US&ad=US&fromAR=1>

NOTE: For Microsoft OneDrive, you’ll want to follow the same instructions but choose “Disabled” in the last step in order to re-enable file syncing.

For technically advanced users

Disable other applications/background processes that are consuming a significant amount of CPU resources.

NOTE: if you are not comfortable with making advanced changes, proceed to the section below on sending system information to your lead.

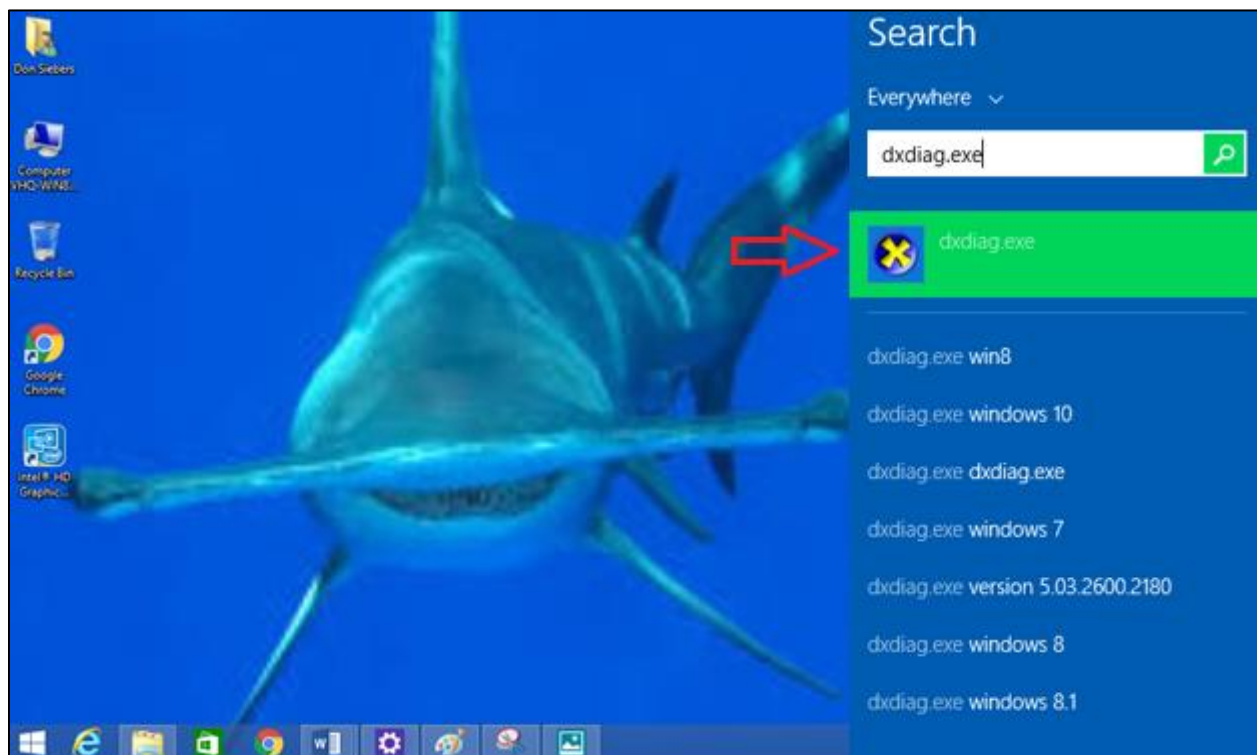
Disable other applications/background processes that are consuming a significant amount of CPU resources.

In addition to the above troubleshooting steps, advanced users can review the list of applications and background processes running in Task Manager and disable those that are consuming a significant amount (> 5-10%) of CPU resources. **NOTE:** This is recommended for more technically advanced users only. Caution should be taken to not disable any processes that might affect normal computer functioning.

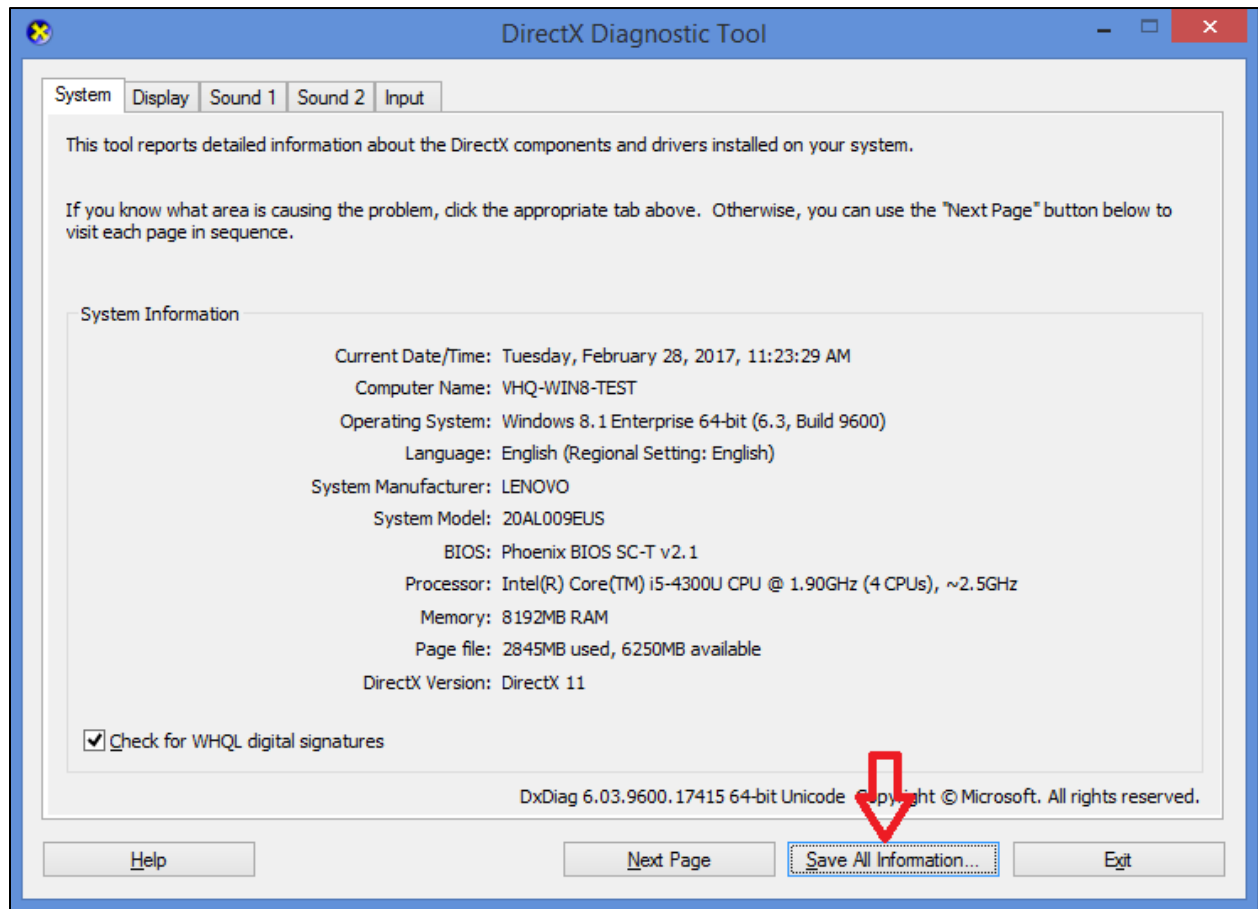
Additional Troubleshooting: Sending computer info to your Lead

If you are still experiencing playback issues, you can send two things to your FinPrint Lead that will help them troubleshoot the annotator playback performance further. This information will help them identify whether there are resource limitations on your machine and/or another application may be interfering with its ability to play smoothly. These include a copy of your “DxDiag.txt” file and a screen shot of your Task Manager. Simple instructions for creating these are below:

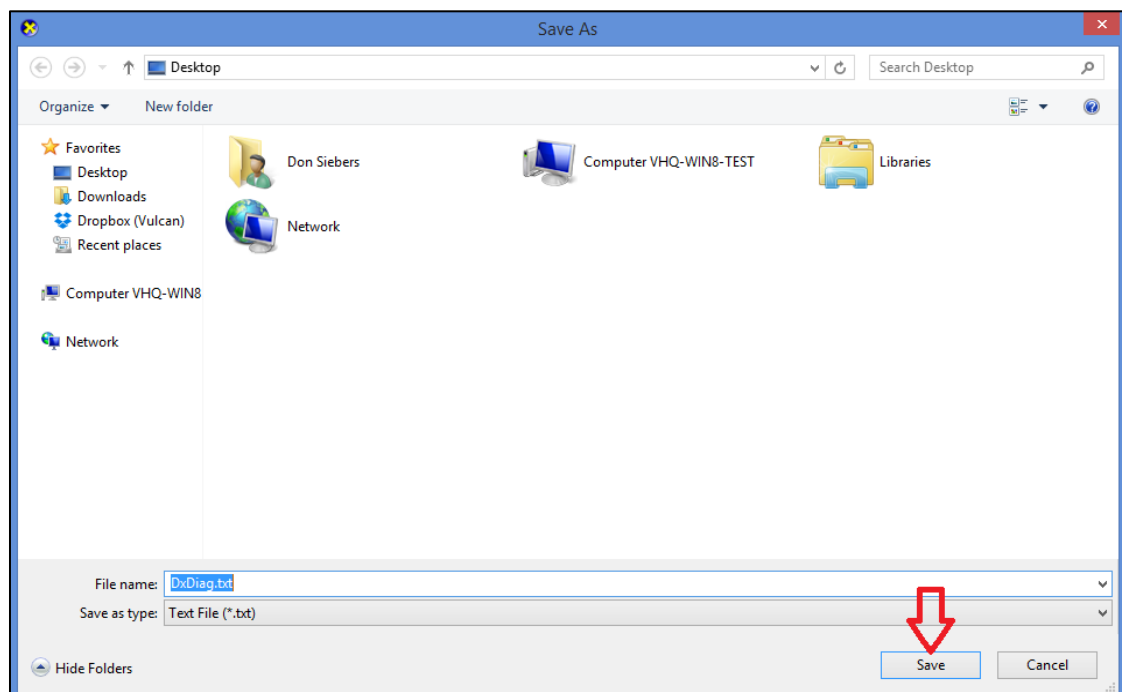
- 1) **Creating a “DxDiag.txt” File** – this file can be created using the DirectX Diagnostic Tool that should already exist on your computer and will capture your computer’s system information. You can create the file following these simple steps:
 - a. Click the Windows/Start icon in the far left corner of your Windows Task Bar at the bottom of your screen and type “dxdiag”.
 - b. You should see the Windows search panel open in the upper right corner of your screen. Choose the “dxdiag.exe” application appearing at the top of the list.



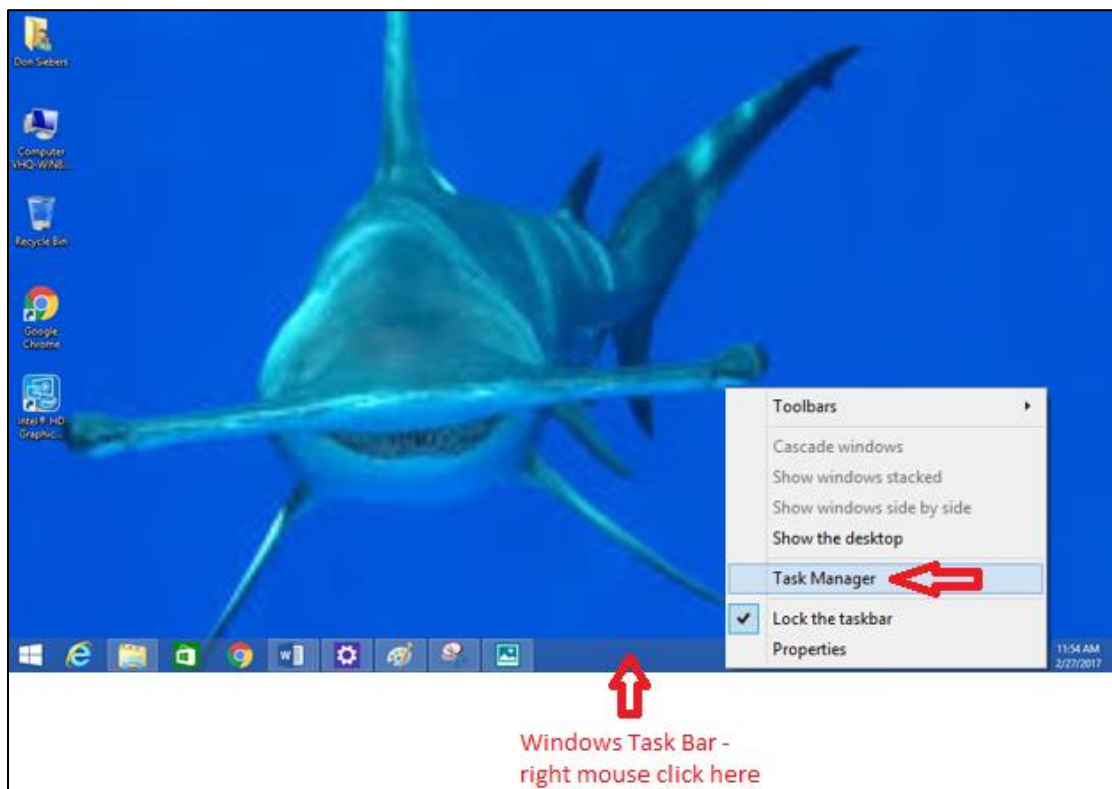
- c. The DirectX Diagnostic Tool will start and you’ll see the following application screen. Click on the “Save All Information” button at the bottom.



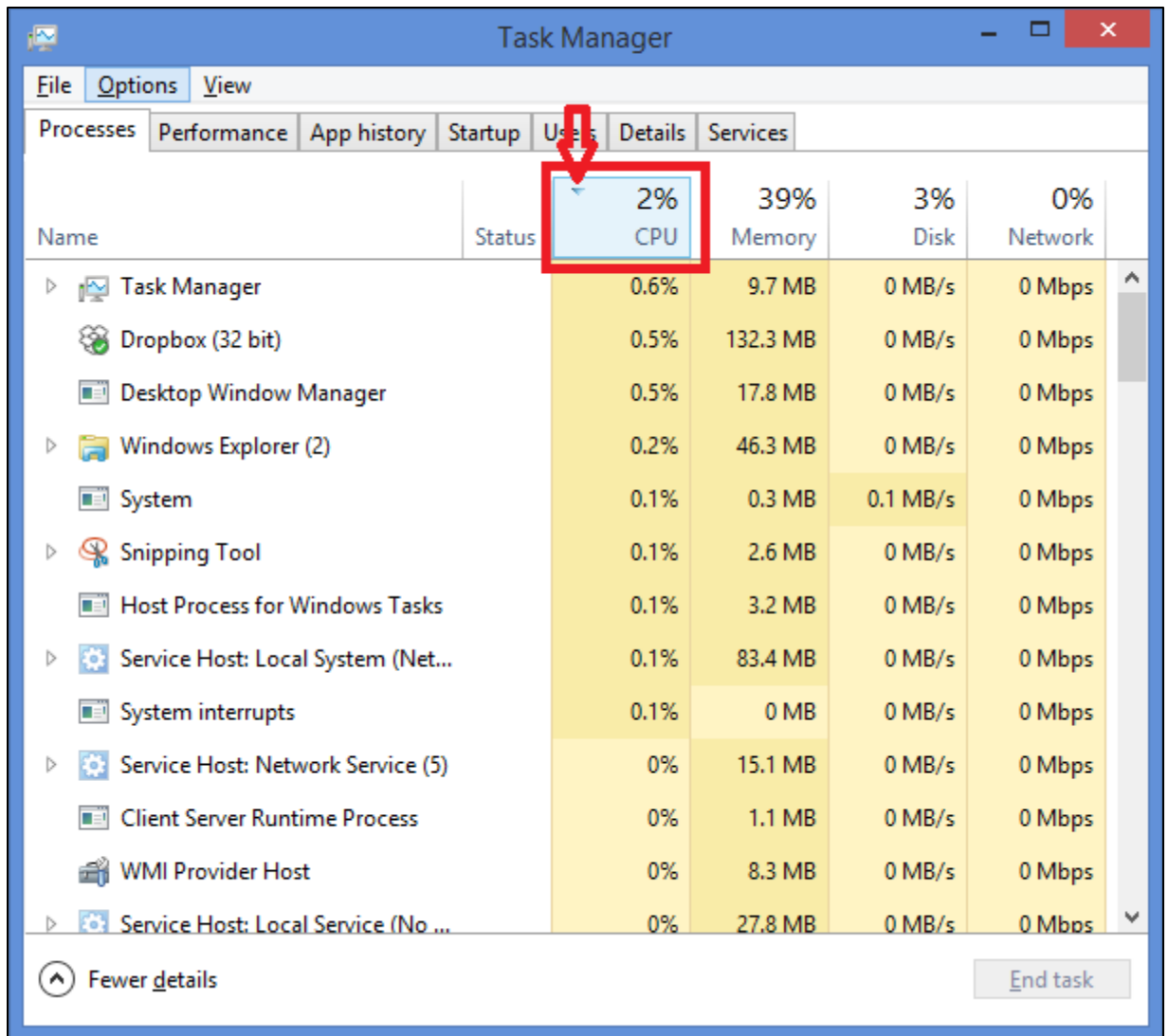
d. Save the DxDiag.txt file to a location on your computer (desktop is default).



- e. Email this DxDiag.txt file to your FinPrint Lead. They will review your computer's system profile to determine what other next steps can be taken.
- 2) **Creating a screenshot of your Task Manager.** Your Task Manager will show other applications that could be interfering with the annotator playing smoothly. Follow these steps to generate a screen shot of your Task Manager and send it to your FinPrint Lead.
- a. Right-click on the Windows Task Bar at the bottom of your screen and select "Task Manager" from the pop-up menu as shown below:



- b. You should see the following Task Manager window appear. Click on the "CPU" Column header once or twice to ensure it's sorting the list of items in descending order by CPU% (as indicated by small grey down arrow shown below).



- a. Take a screen shot of your machine by finding and pressing the “PrtScn” or “PrtSc” or equivalent key on your keyboard.



- b. Paste the screenshot into a Microsoft Word (or other word processor) document, save the document file on your machine, and email the document to your FinPrint Lead as an attachment. Saving it within a Word document makes it easier to zoom in on and read.