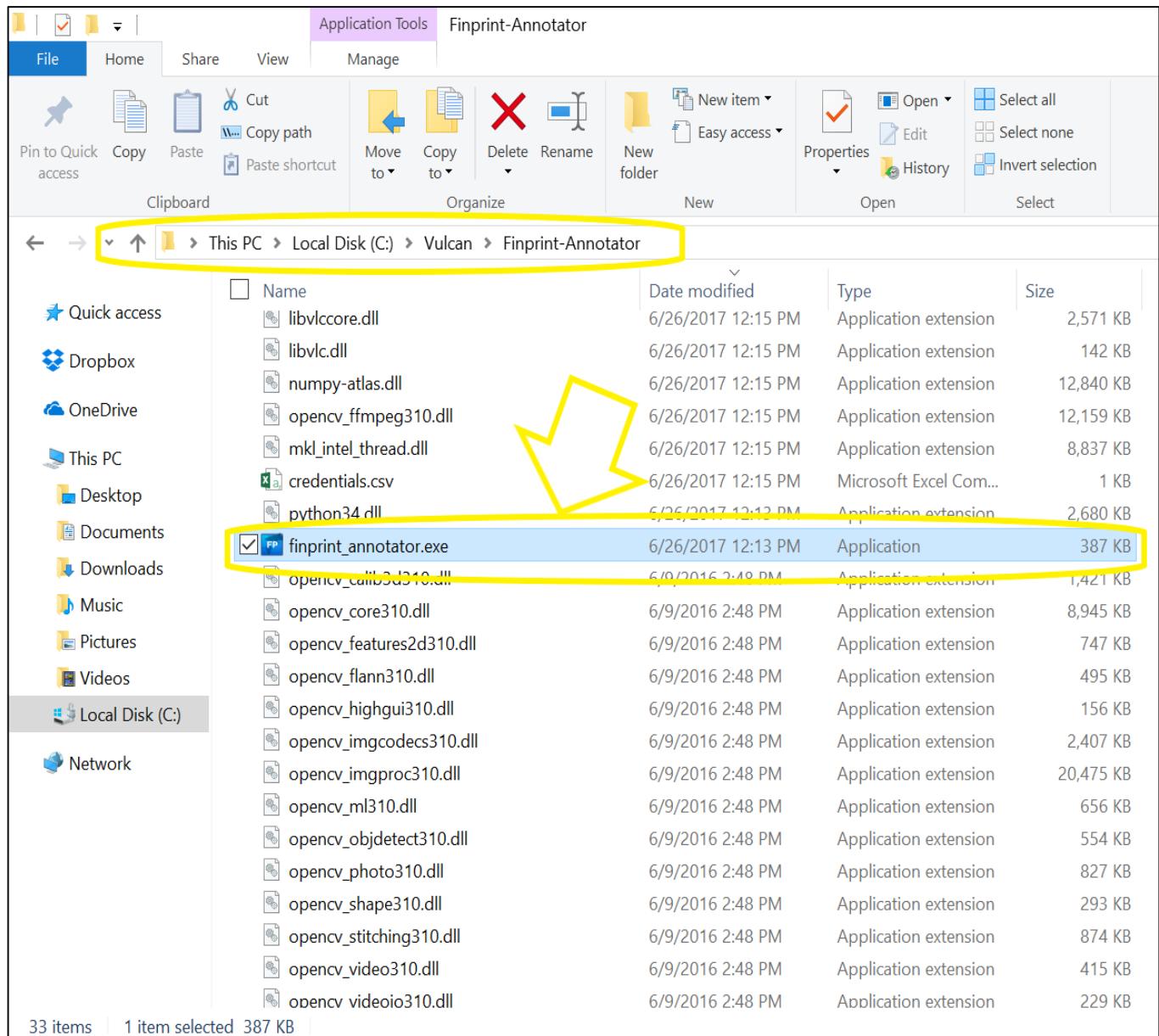


Annotator application user guide

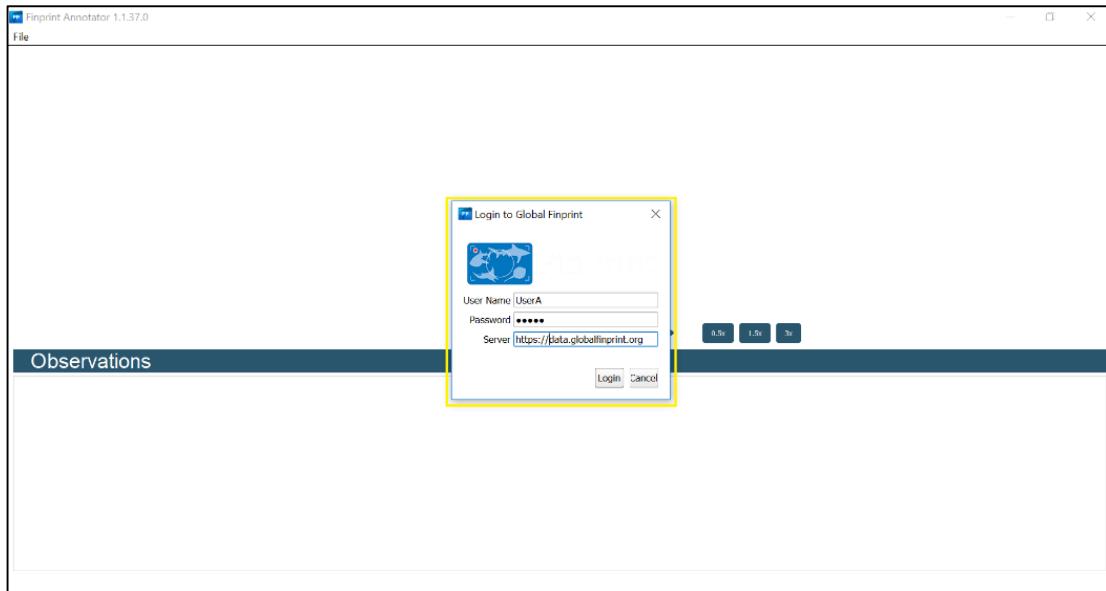
Getting started using annotator

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

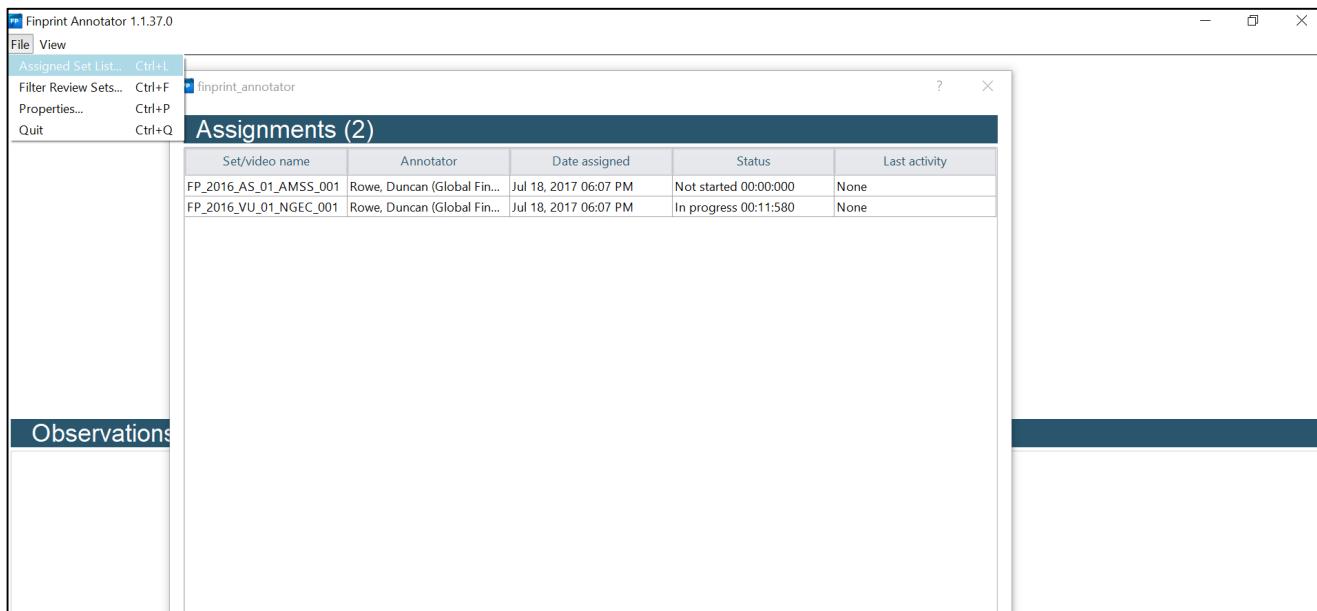


Double-click on the **fp_fingerprint_annotator.exe** file (marked, above) to launch the application.

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 combination.



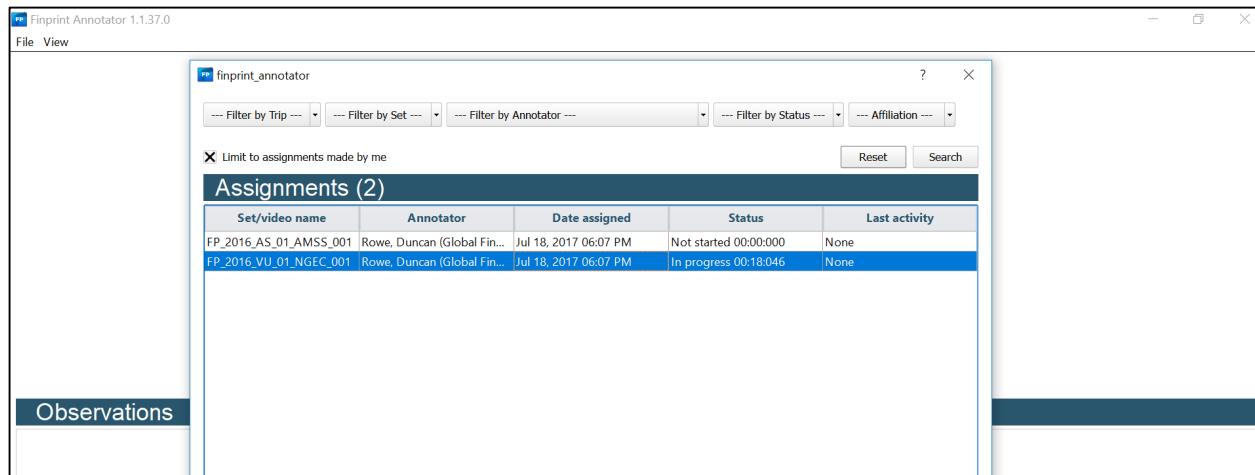
Set/video name	Annotator	Date assigned	Status	Last activity
FP_2016_AS_01_AMSS_001	Rowe, Duncan (Global Fin...	Jul 18, 2017 06:07 PM	Not started 00:00:00	None
FP_2016_VU_01_NGEC_001	Rowe, Duncan (Global Fin...	Jul 18, 2017 06:07 PM	In progress 00:11:580	None

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 26 or click [HERE](#) to see the assignment list for Leads and Superusers.**

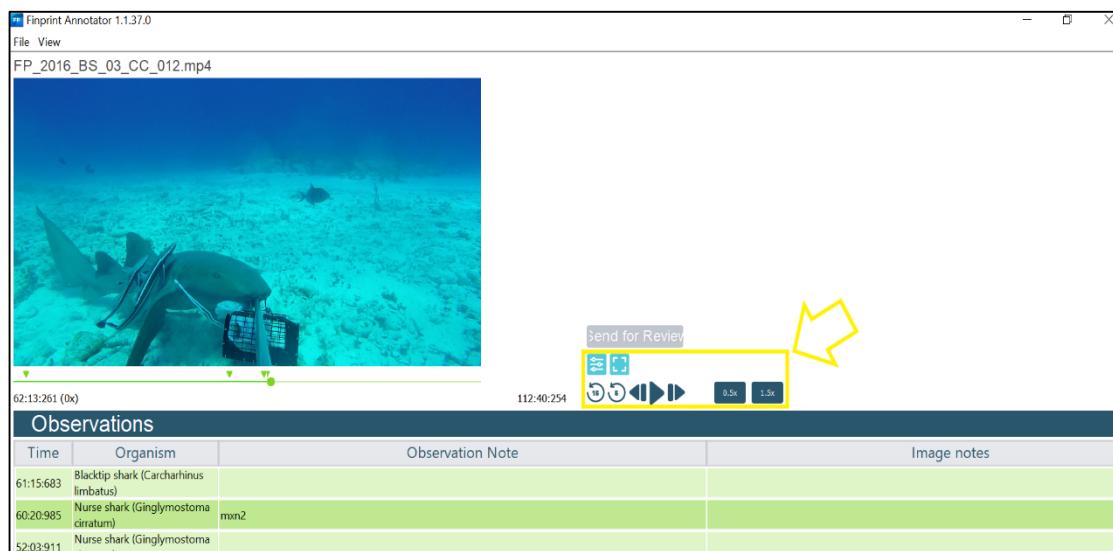
Opening and watching a video

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

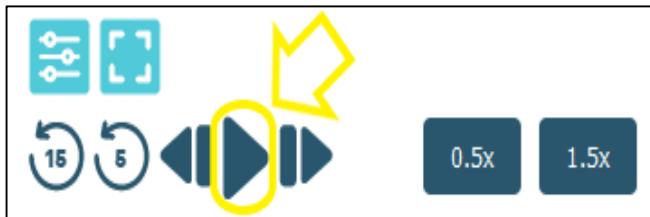


Video Playback Controls

To begin playback, use the Media controls, **highlighted** below.



To start playing the video, click play.

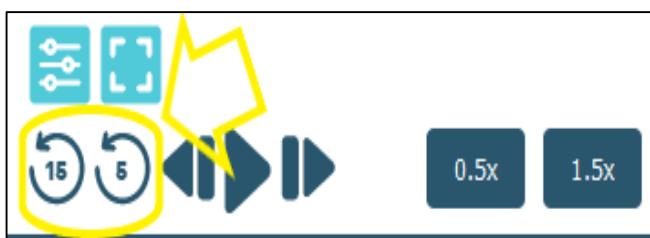


To pause the video at any time during playback, click pause.

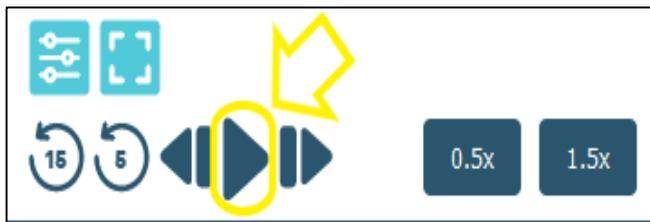


You can also use the Space Bar as a shortcut key for playing and pausing the video.

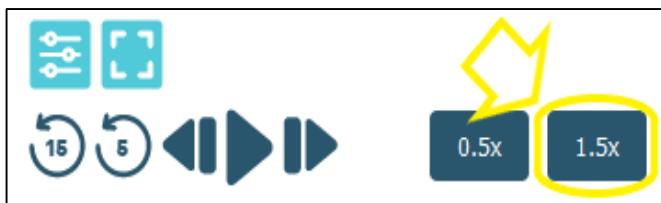
Clicking either the 15s or 5s rewind buttons will stop playback and rewind the video by the selected time. You can click these multiple times, to rewind by values of 5 or 15 seconds each time.



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.

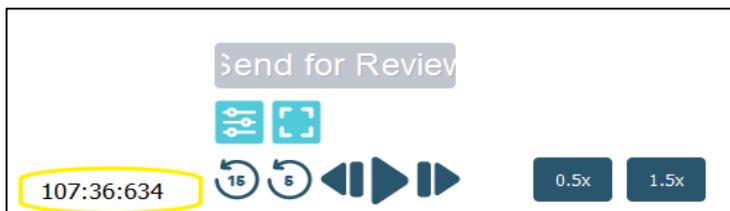


Click the half-speed button to view playback at half the normal speed.



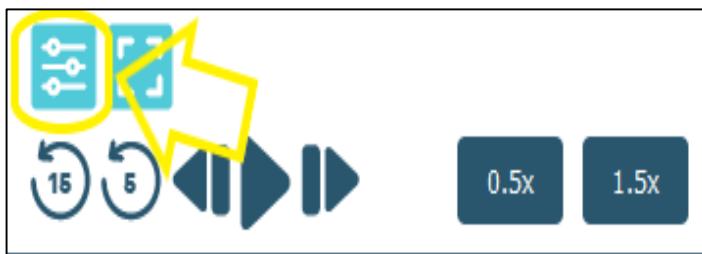
After using the 0.5x or 1.5x buttons, Click 'Pause' then 'Play' to resume viewing in normal time.

The total duration of the video is shown here.

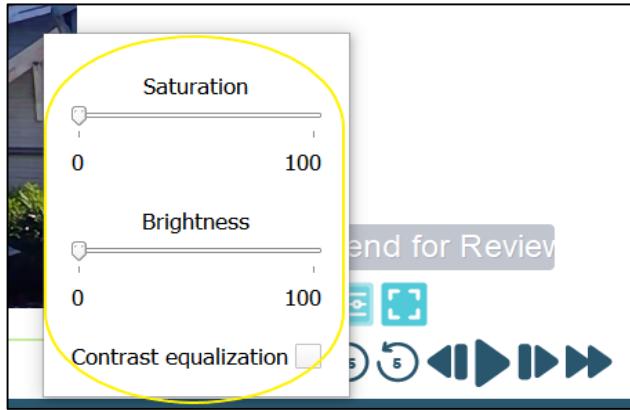


You can adjust the picture quality when the video is paused by clicking on the contrast menu.

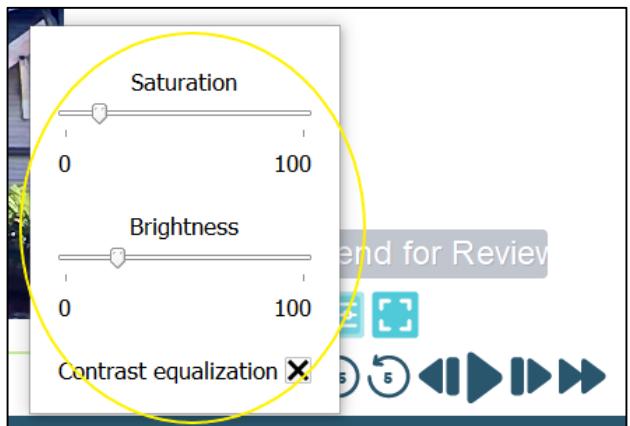
Note: You will only see the video quality adjustments applied while the video is paused.



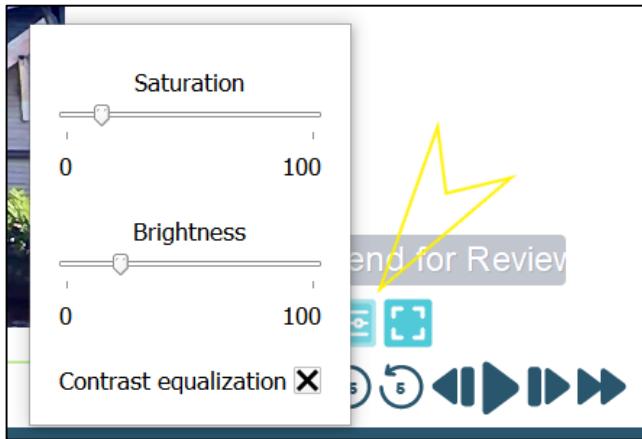
A pop-up menu will appear.



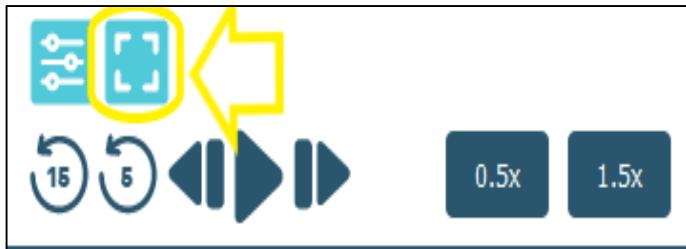
Adjust Saturation and Brightness as needed, using the sliders. Click on Contrast equalization to turn the function on or off.



To exit the contrast menu, click the button used to open it.

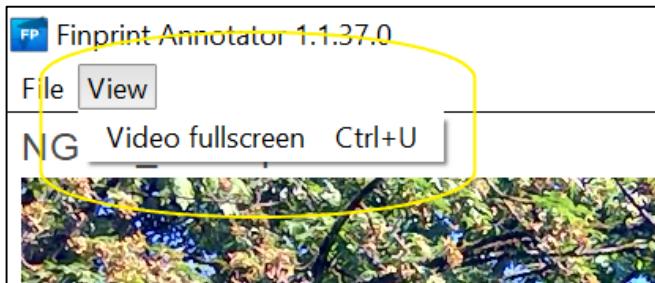


To view the video in full-screen mode click the full-screen button.

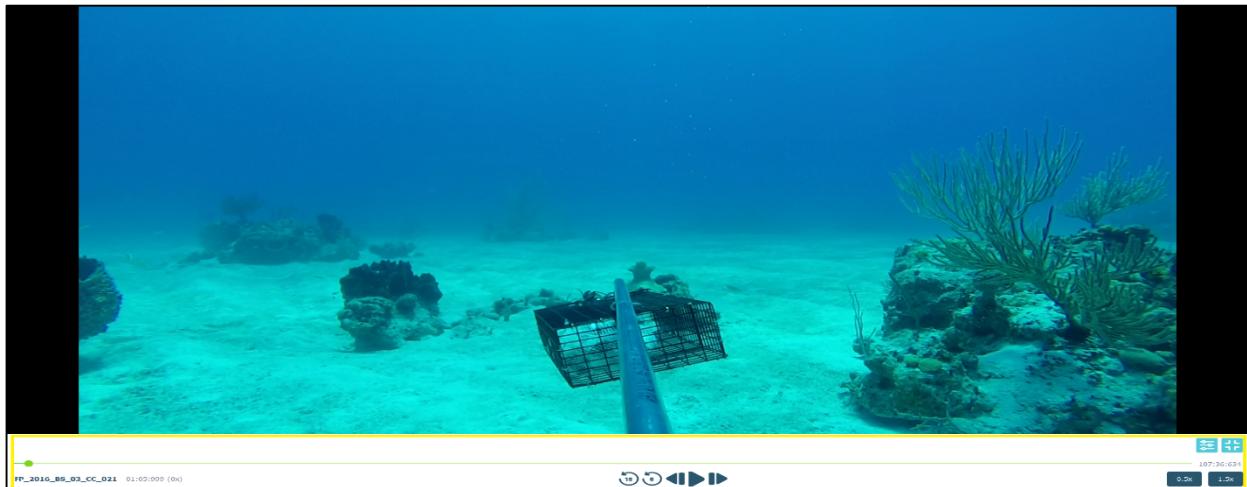


Note that playback will pause when switching between full-screen mode and back, and you will need to click 'Play' again to resume viewing.

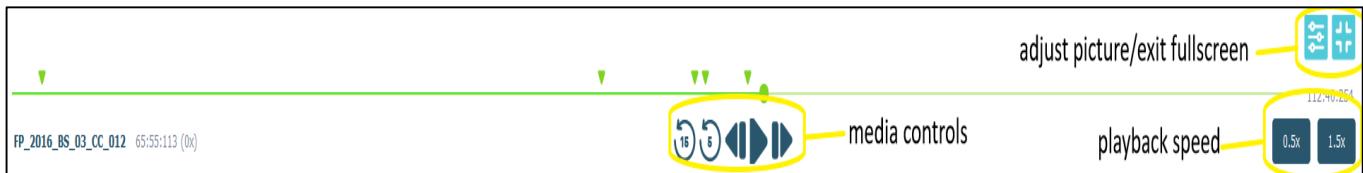
You can also use the **Ctrl+U** shortcut key or click on “Video fullscreen” in the View menu to enter full-screen mode.



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



The in-video navigation menu 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.



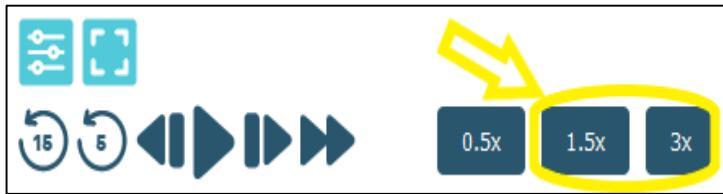
You can also manually adjust the time slider to any point in the video.



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.

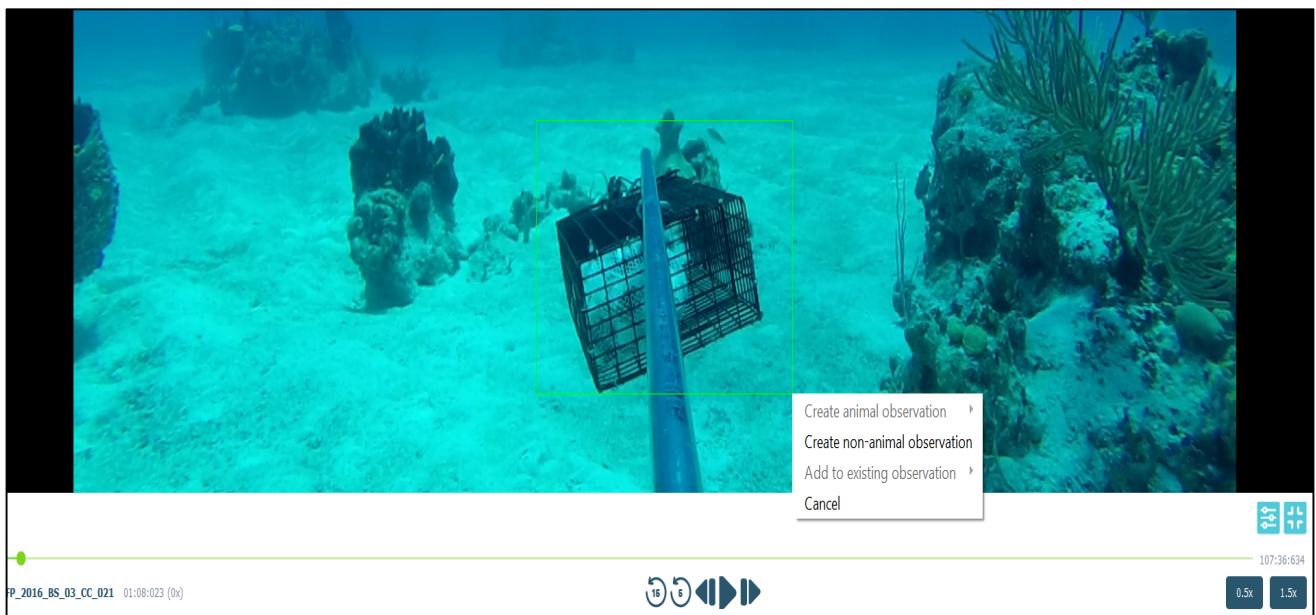
***Leads and SuperUsers can use the time slider to advance to any point in the video.
Additionally, a further 3x playback speed is available for their use:*



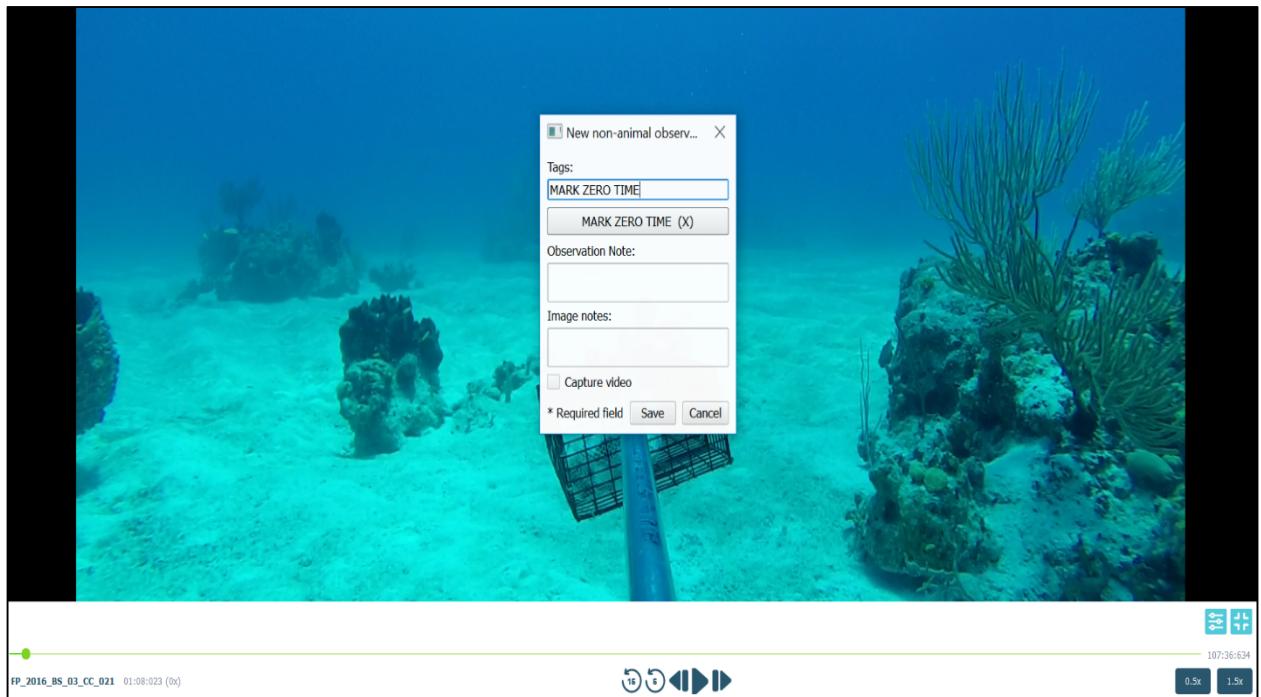
Annotation controls: Creating Observations

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

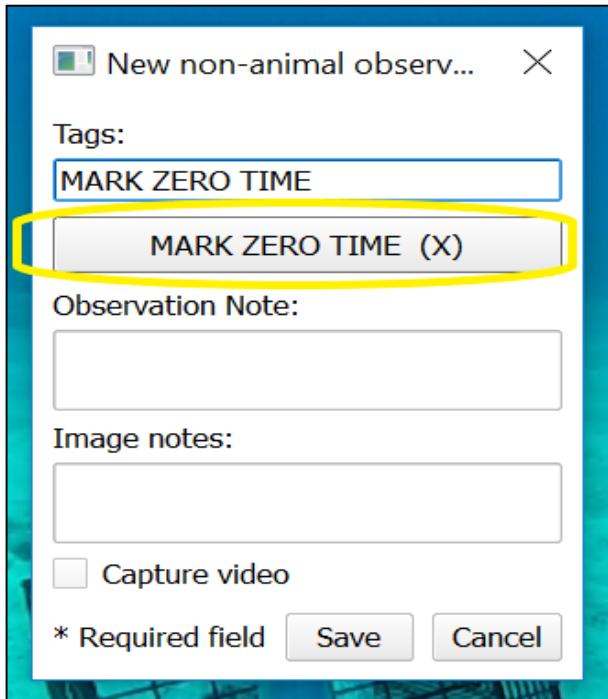
The first observation you create must be the MARK ZERO TIME, which is the point at which the BRUV video has settled onto the ocean floor. You can use the video slider to advance to the point at which this occurs in order to capture the MARK ZERO TIME. Click-and-drag on the video screen with either mouse button to create a rectangle on the screen, which results in a menu appearing.



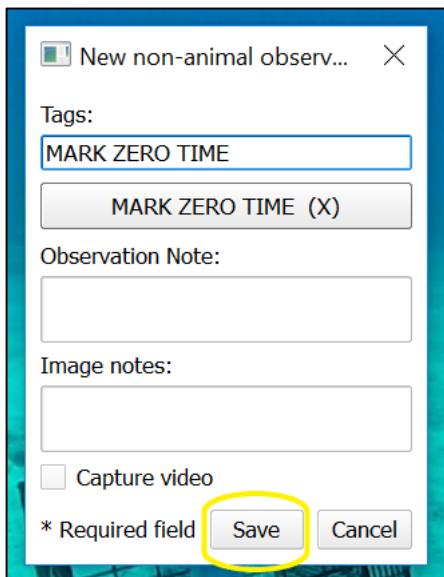
Select ‘Create non-animal observation’ and a pop-up window will appear.



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.

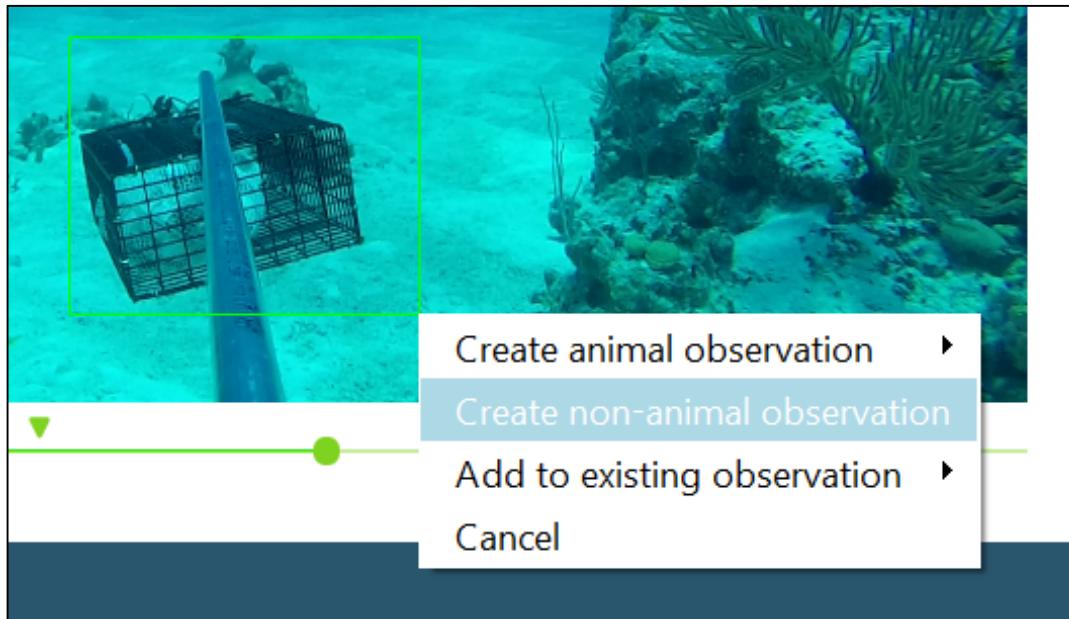


There are two other time-related observations that your lead may require you to mark for each video set – MARK 90 MIN TIME and MARK HAUL TIME.

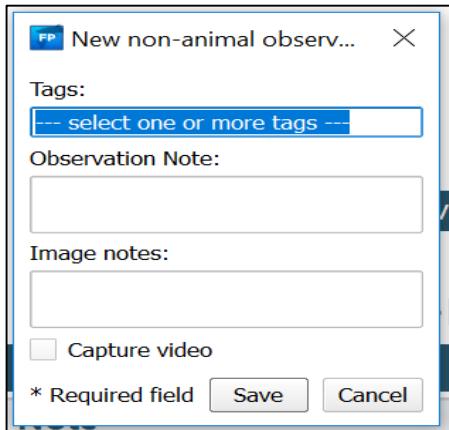
The MARK 90 MIN TIME is set at the point in the video where you've watched 90 minutes of video from the point of the MARK HAUL TIME.

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.

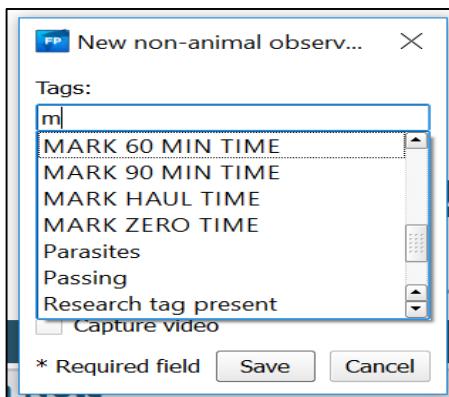
To set one of these observations, pause playback and click-and-drag open a new rectangle and select 'Create non-animal observation'.



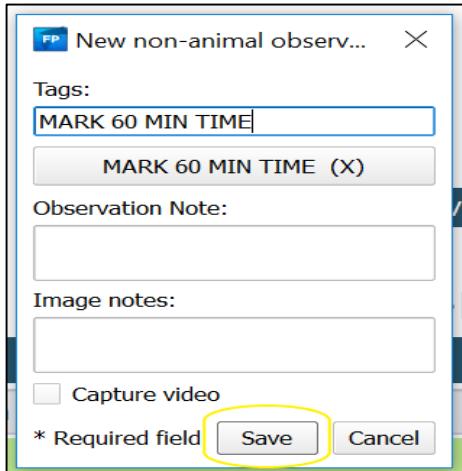
Click in the “Tags” field in the ‘New non-animal observation’ window that pops up.



Type 'M' or scroll down to choose from one of the time event Tags.

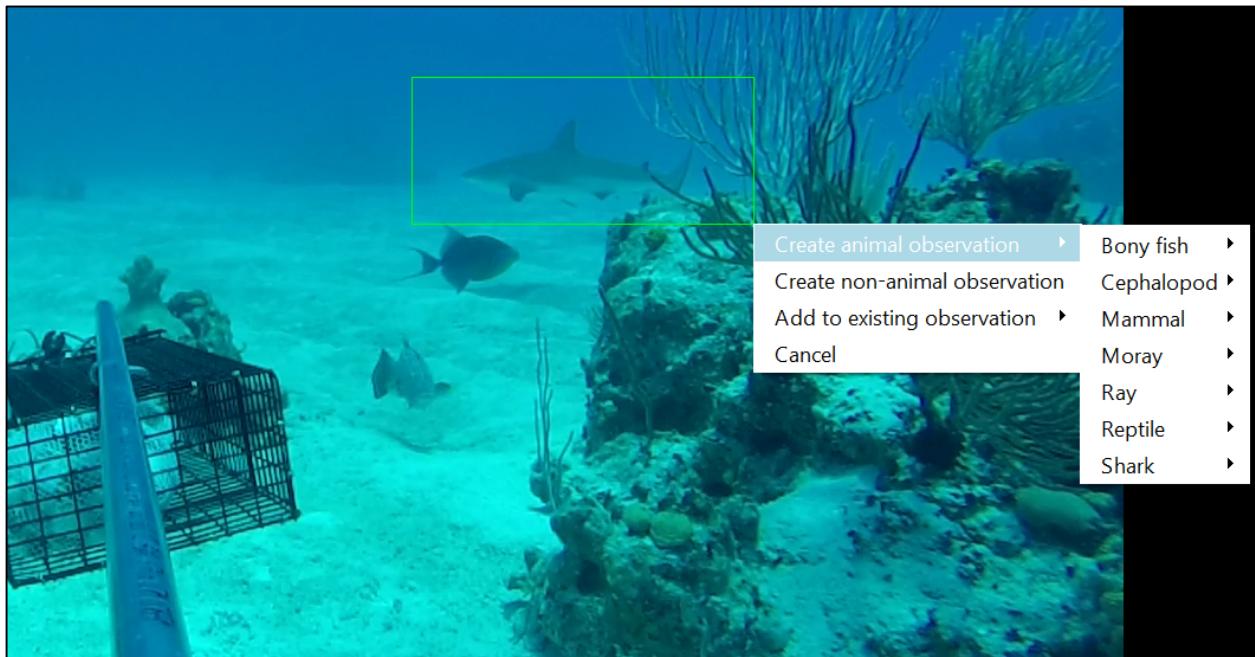


Select the relevant Time Event Tag, and enter any Observation or Image notes, then click SAVE.

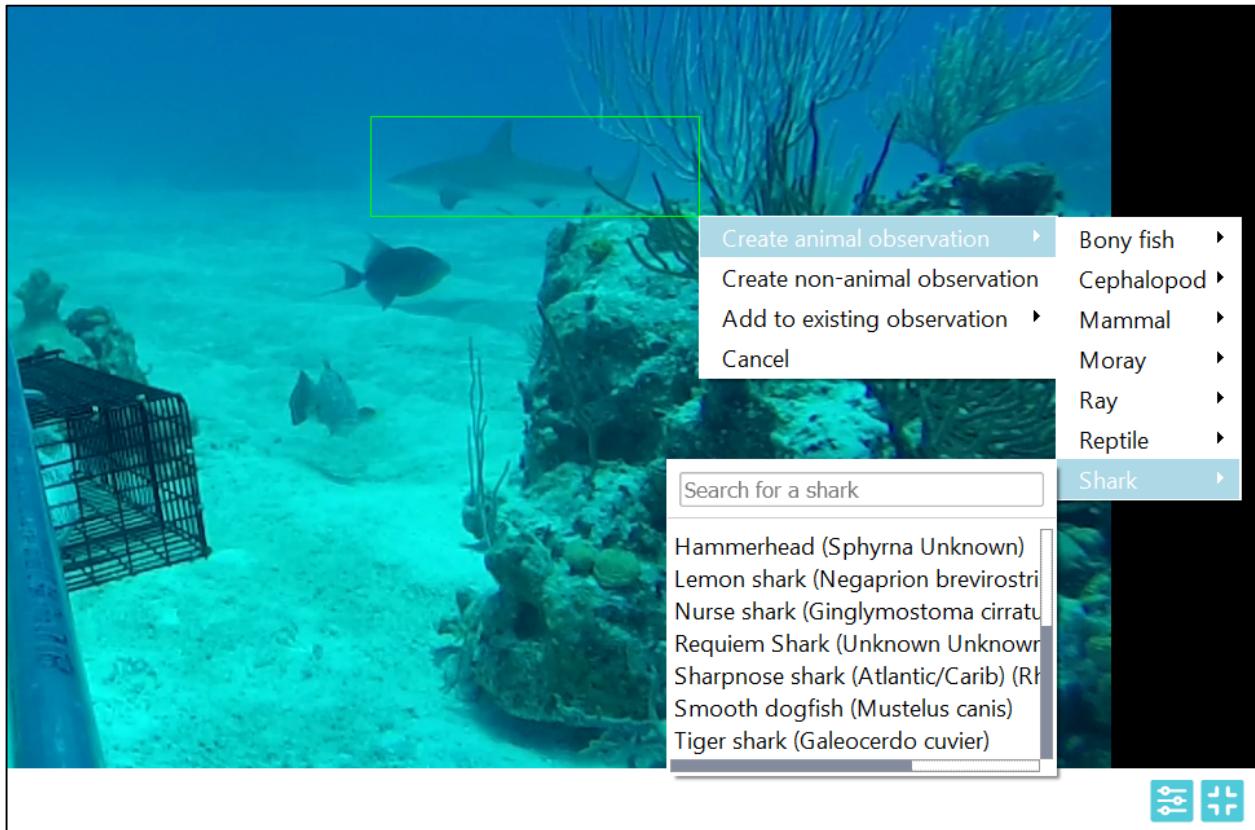


Annotation controls: Animal observations

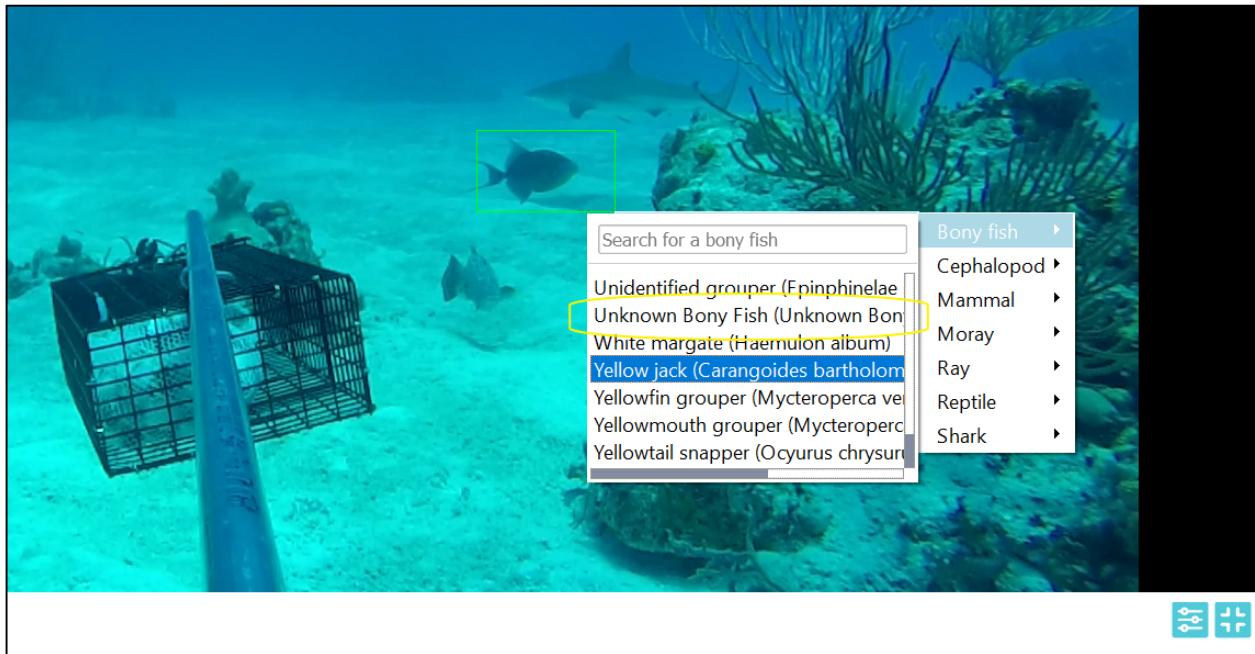
To record an animal observation, first PAUSE playback. Drag a frame around the animal and the observation menu will appear. Hover over 'Create animal observation' and an expanded list will pop up.



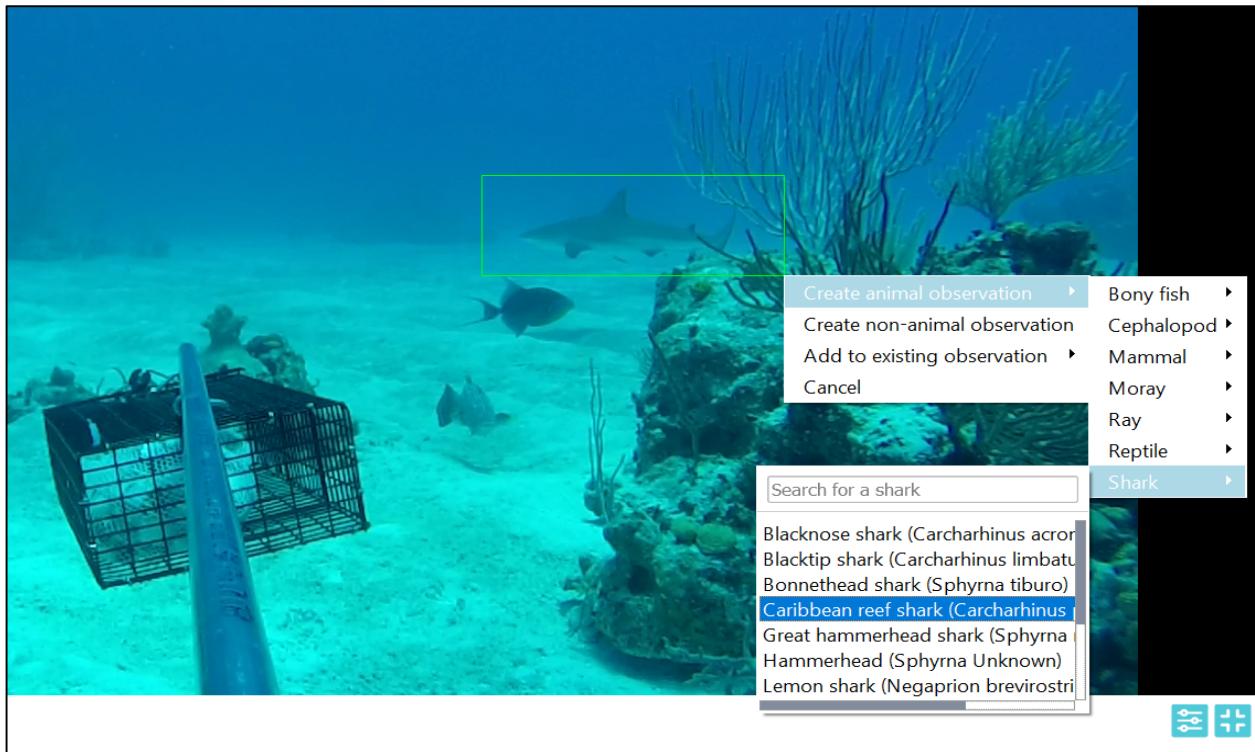
Hover over the relevant category list and the species list will pop up.



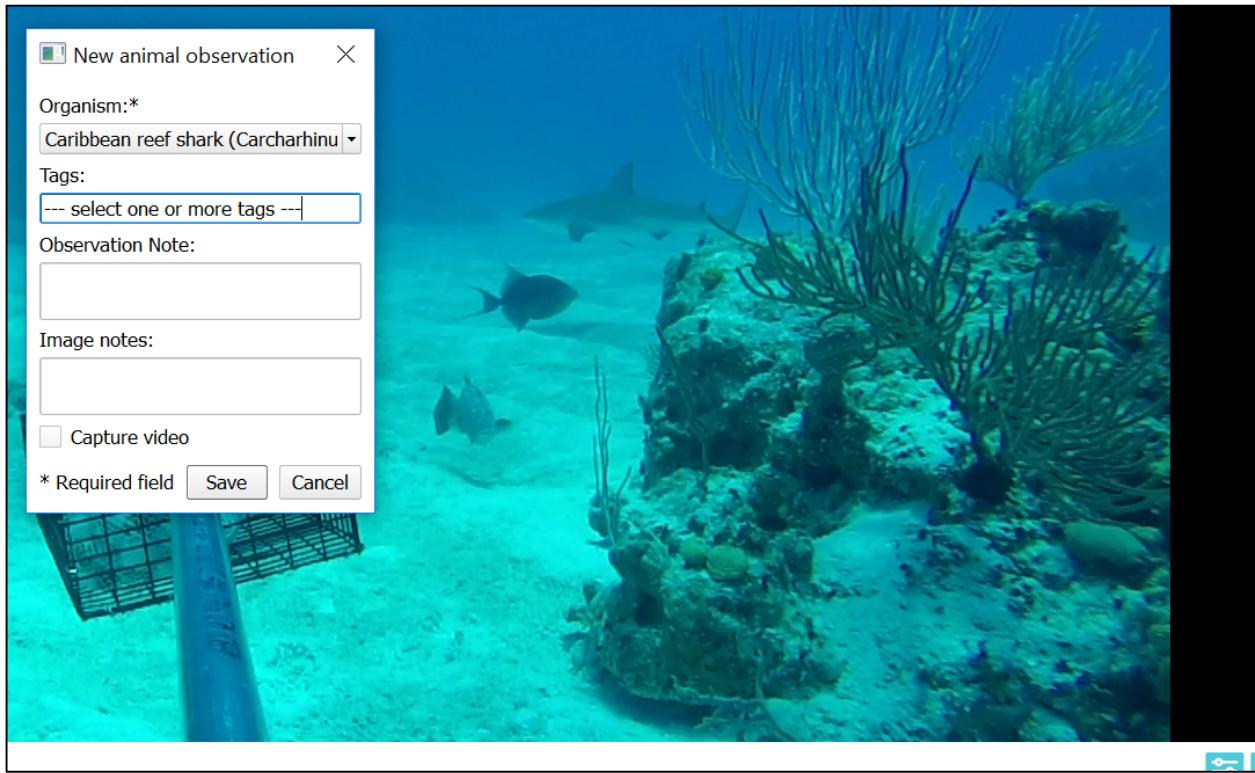
Scroll up or down the list to select the relevant species or type any part of the species name in the search box to narrow down the list of species to choose from. If you are unsure of the species, make the observation anyway – you can choose one of the “Unknown...” options or make changes to your observations 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.



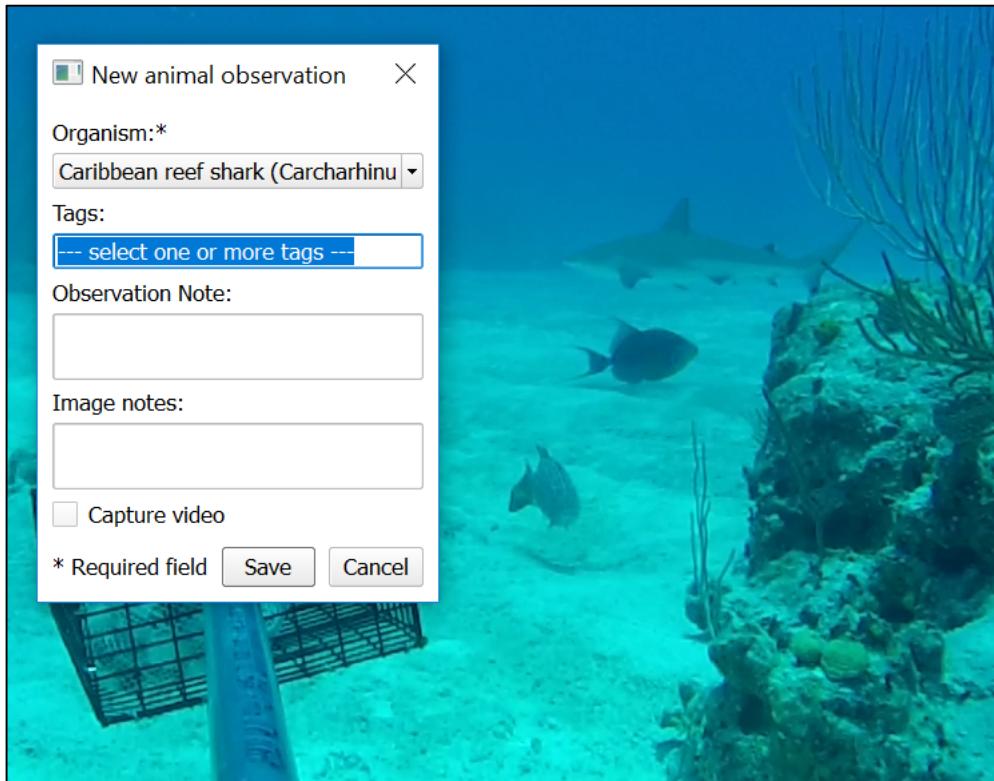
The 'New animal observation' pop-up will appear.



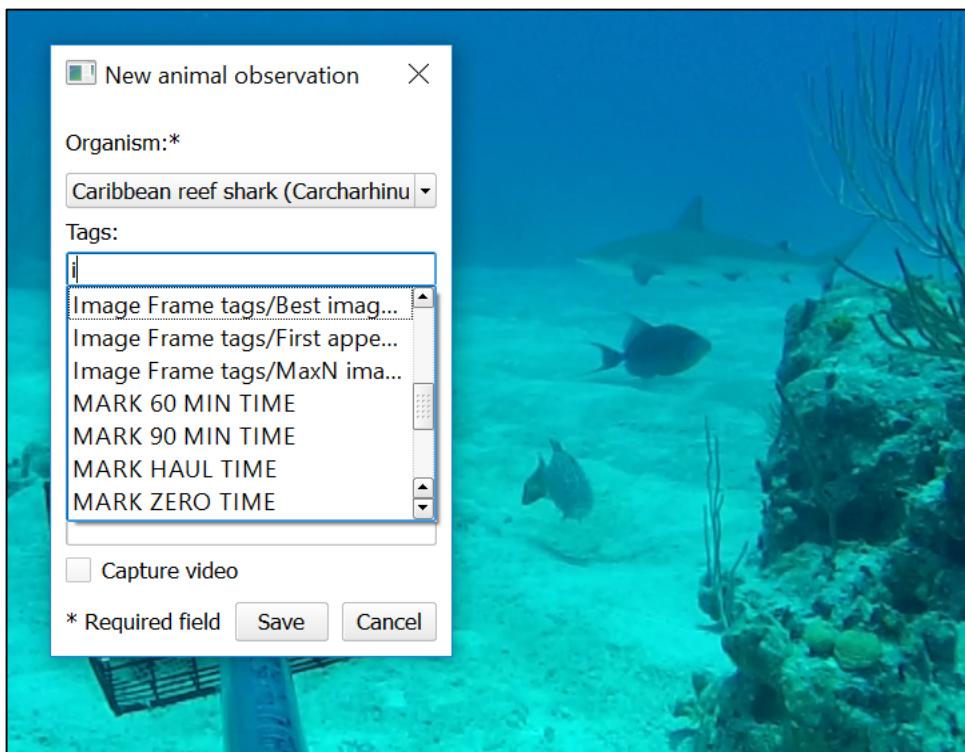
MaxN

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. "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, higher MaxN value. You'll notice when you specify a value in the MaxN field, that the MaxN Tag is automatically added as well.

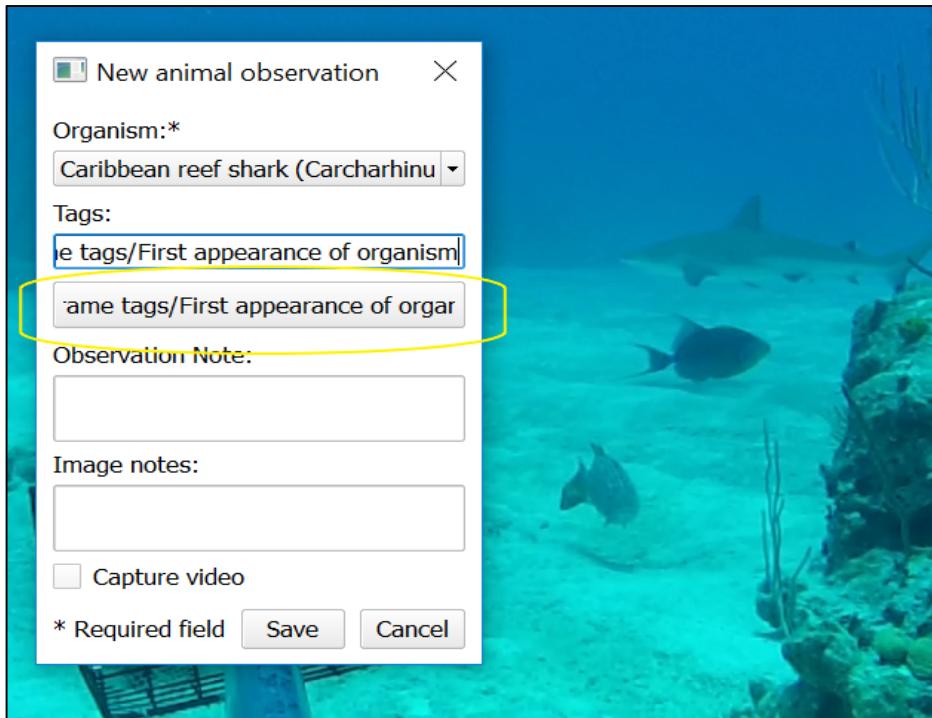
If this is the *first appearance* of a new animal, you'll also want to tag it as such. Click in the 'Tags' field.



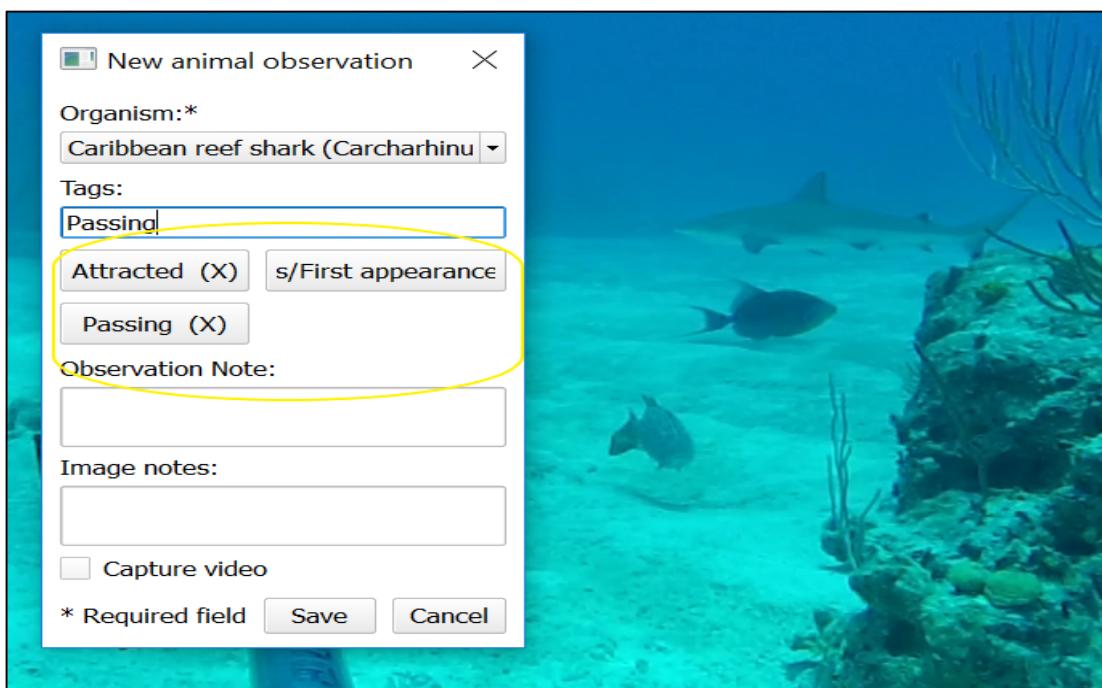
Start typing in “first” and you’ll see the ‘Image Frame tags – First appearance of organism’ Tag appear.



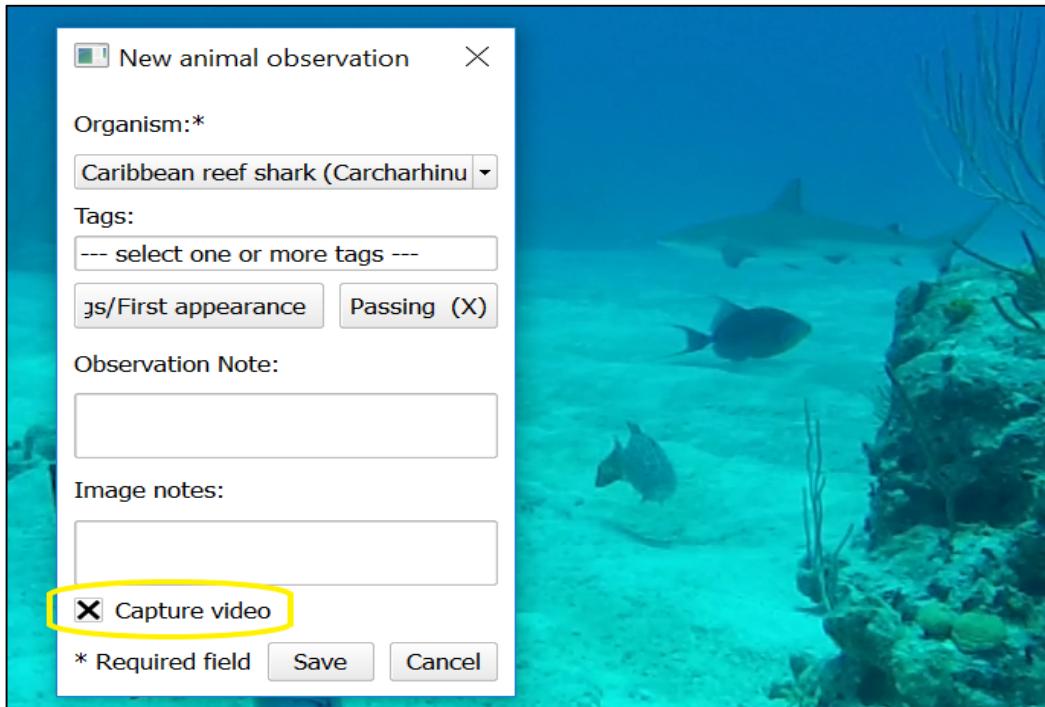
Click on the tag to add it.



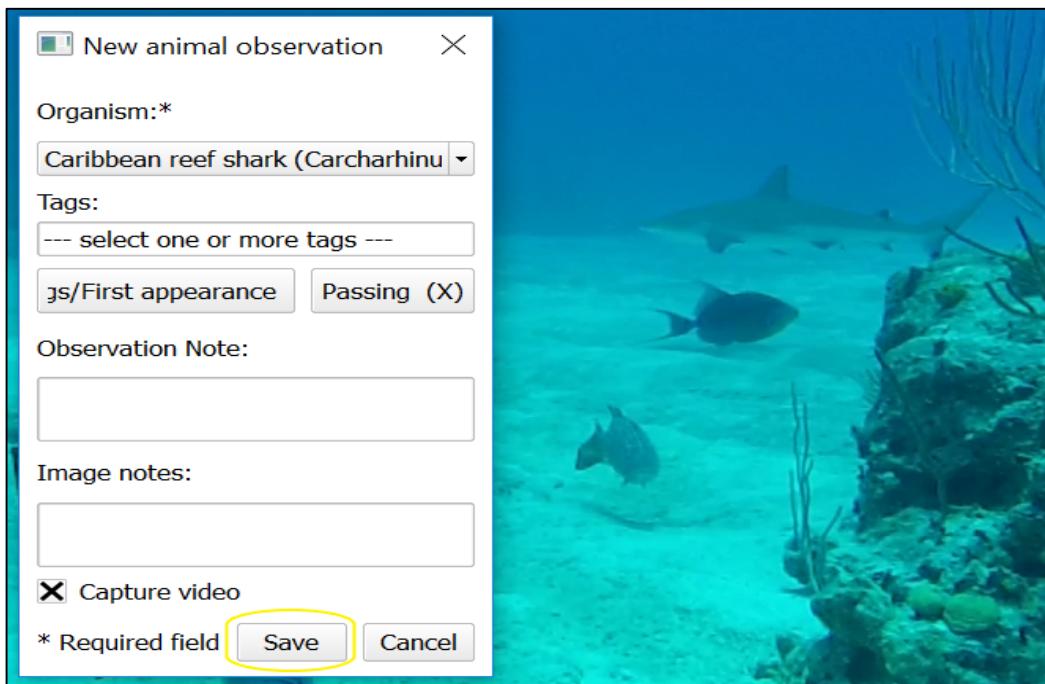
You can add further tags at this time by following the same process. If you want to remove a tag for any reason, click on it in the field where it is displayed.



Add any observation or image notes 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.



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



Observations table

As you create new observations, you will notice that they appear in normal 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.

The screenshot shows a video player interface at the top with a timestamp of 02:55:921 (0x). Below it is the 'Observations' table. The table has columns for 'Animal', 'Observation Note', 'Image notes', and 'Tags'. A single observation row is present, with the 'Observation Note' field containing 'empty' and the 'Tags' field containing 'MARK ZERO TIME'. The 'Tags' field is highlighted with a yellow circle.

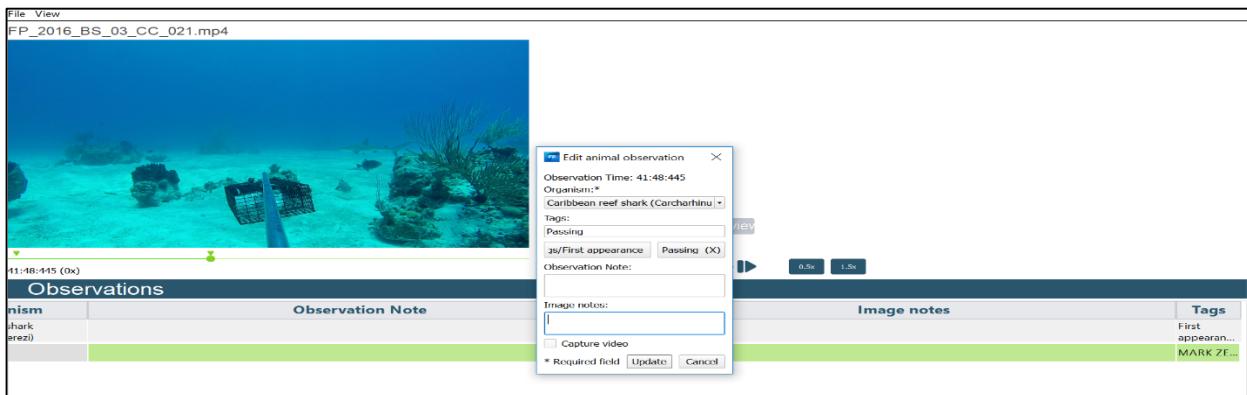
Animal	Observation Note	Image notes	Tags
	empty	empty	MARK ZERO TIME

For example, if you make a mistake while setting the MARK 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.)

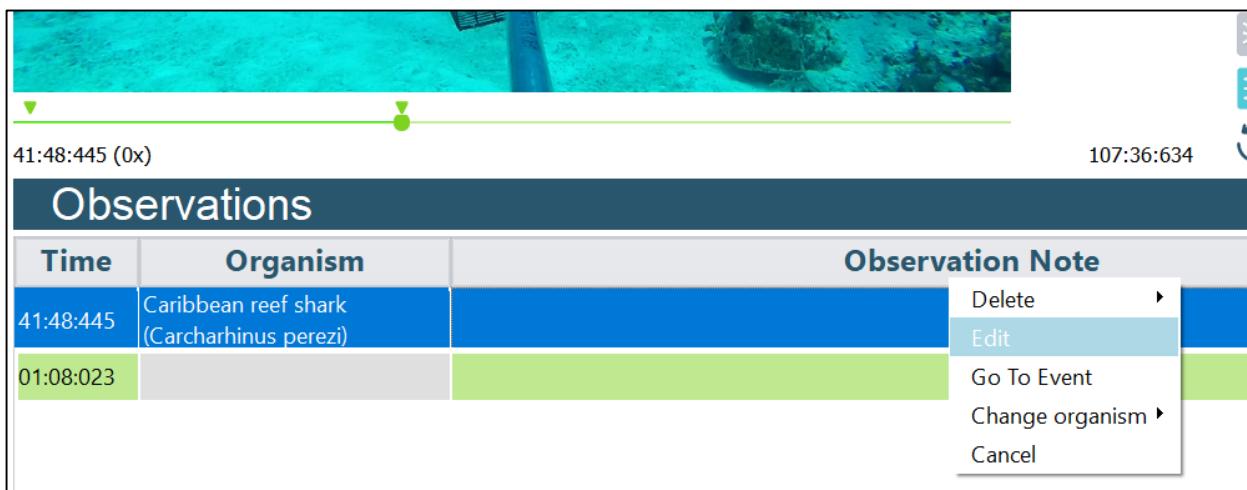
The screenshot shows a video player interface at the top with a timestamp of 01:08:023 (0x). Below it is the 'Observations' table. A context menu is open over the first row, which contains the observation 'empty'. The menu options are 'Delete', 'Edit', 'Go To Event', and 'Cancel'. The 'Delete' option is highlighted with a yellow circle. The 'Tags' column for this row also contains 'MARK ZERO TIME'.

Animal	Observation Note	Image notes	Tags
	empty		MARK ZERO TIME

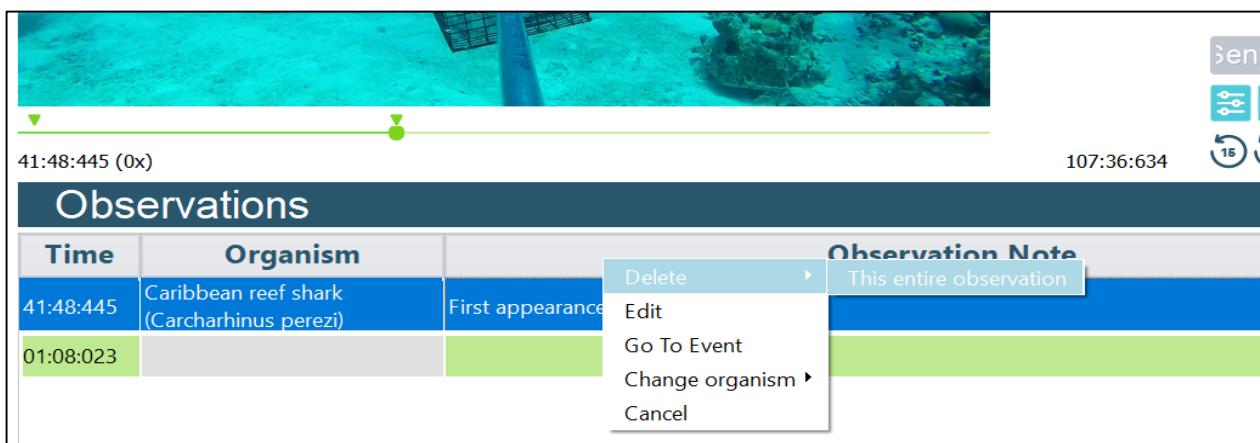
Double-clicking an observation in any field will open the “Edit animal/non-animal observation” control.



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



Using this menu, you can also 'DELETE' any observations, or additional observations, if any are recorded.



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

A screenshot of a software application titled "Observations". At the top, there is a timeline with a green marker at position 41:48:445 (0x). Below the timeline is a table with two rows:

Time	Organism	Note
41:48:445	Caribbean reef shark (Carcharhinus perezi)	First appearance of shark
01:08:023		

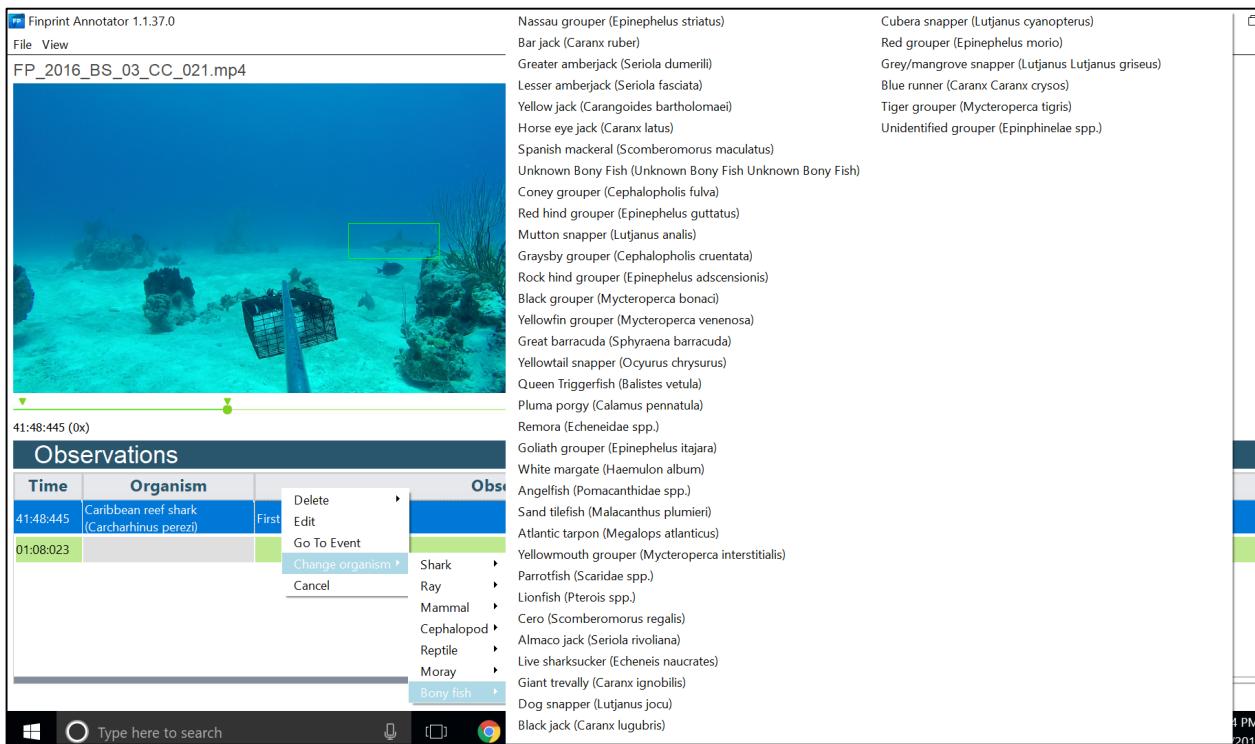
A context menu is open over the first row, specifically over the "Organism" column. The menu items are: Delete, Edit, Go To Event, Change organism ▾, and Cancel. The "Change organism" item has a dropdown arrow pointing to the right.

If you misidentified an organism, hovering over the 'Change Organism' tag will bring up a clearer view of all available tags within each category.

A screenshot of the same software application. The context menu for the first observation now shows a detailed list under the "Change organism" option:

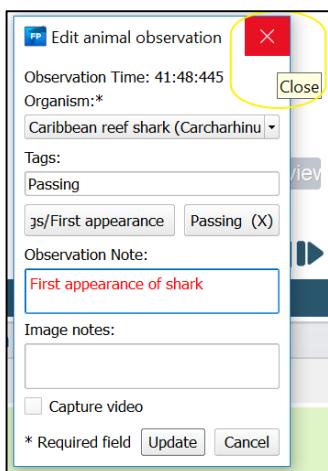
- Shark
- Ray
- Mammal
- Cephalopod
- Reptile
- Moray
- Bony fish

This function may be of particular use when tagging bony fish.



Click on '**UPDATE**', to save your changes. You can also '**CANCEL**' if you wish to leave the observation without making changes.

If you double-clicked an observation, or selected 'Edit' and have the 'Edit animal observation' window open, use '**ESC**' to exit without making changes. You can also click on '**CLOSE**'.



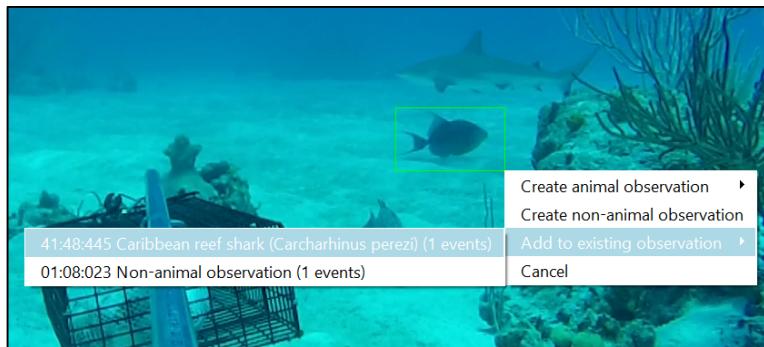
All available 'New animal observation' Tags are shown here.

The image shows four separate windows of the 'New animal observation' dialog box, each with a different set of tags selected in the dropdown menu:

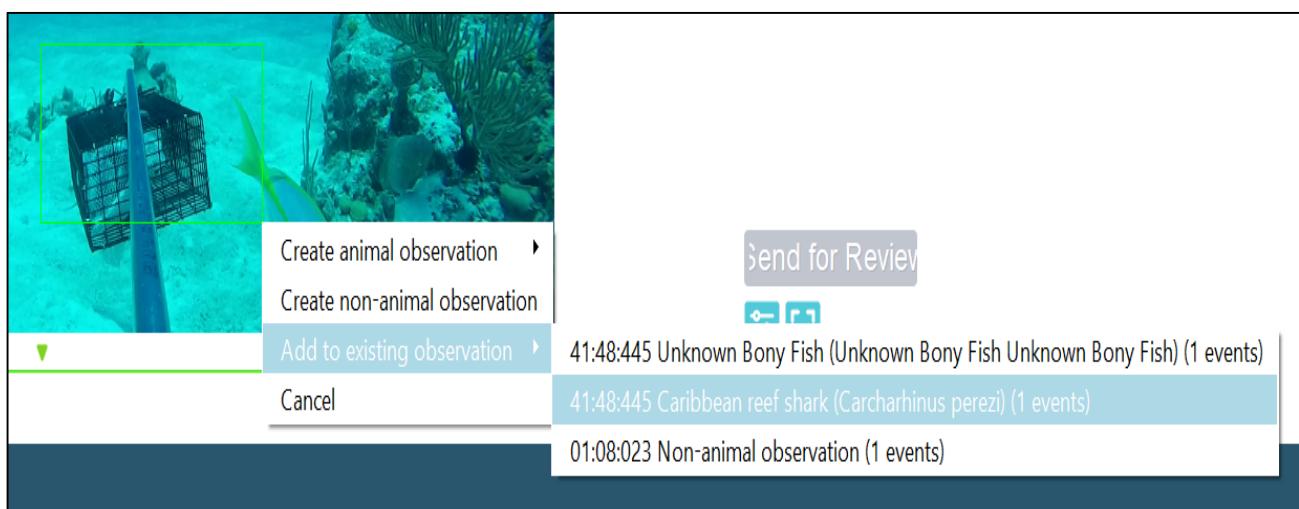
- Window 1:** Tags starting with 'a': Attracted, Bait Gone, Behavior/Aggressive, Behavior/Courtship or mating, Behavior/Cross-species intera..., Behavior/Feeding, Behavior/Same-species intera...
Capture video checkbox
- Window 2:** Tags starting with 'a': Behavior/Same-species intera..., Behavior/Wounded, Chase conspecific, Chase other, Guarding bait, Image Frame tags/Best imag..., Image Frame tags/First appe...
Capture video checkbox
- Window 3:** Tags starting with 'c': Image Frame tags/Best imag..., Image Frame tags/First appe..., Image Frame tags/MaxN ima..., MARK 60 MIN TIME, MARK 90 MIN TIME, MARK HAUL TIME, MARK ZERO TIME
Capture video checkbox
- Window 4:** Tags starting with 'p': Parasites, Passing, Research tag present, Scavenging, Sex/Female, Sex/Male, Sex/Unknown Sex
Capture video checkbox

* Required field Save Cancel

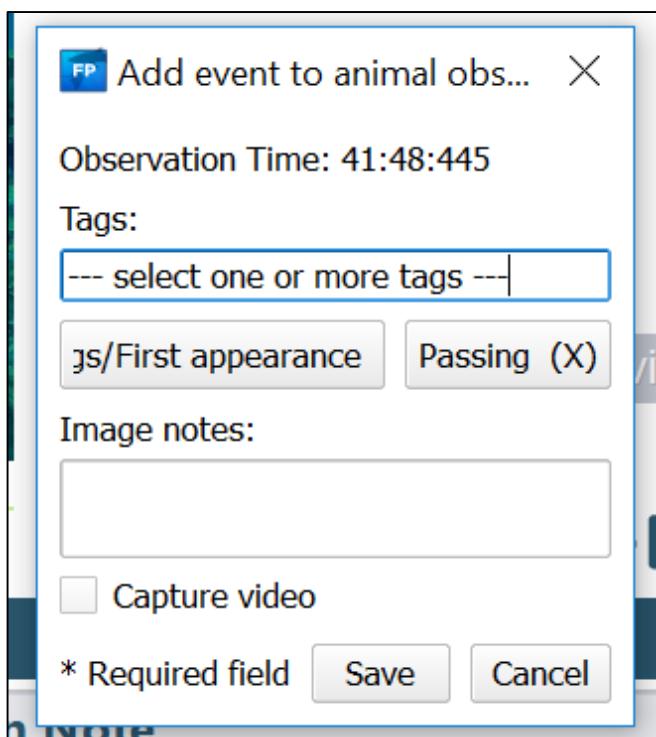
If you need to add something to an existing observation, hover over 'Add to existing observation' and select the observation you wish to add to.



Hover over the observation you want to update then click to select it.



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



After making your changes, click '**SAVE**' to commit them. As before, you can exit using **ESC** or by clicking on '**CLOSE**'.

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!

Fingerprint Annotator 1.1.37.0

File View

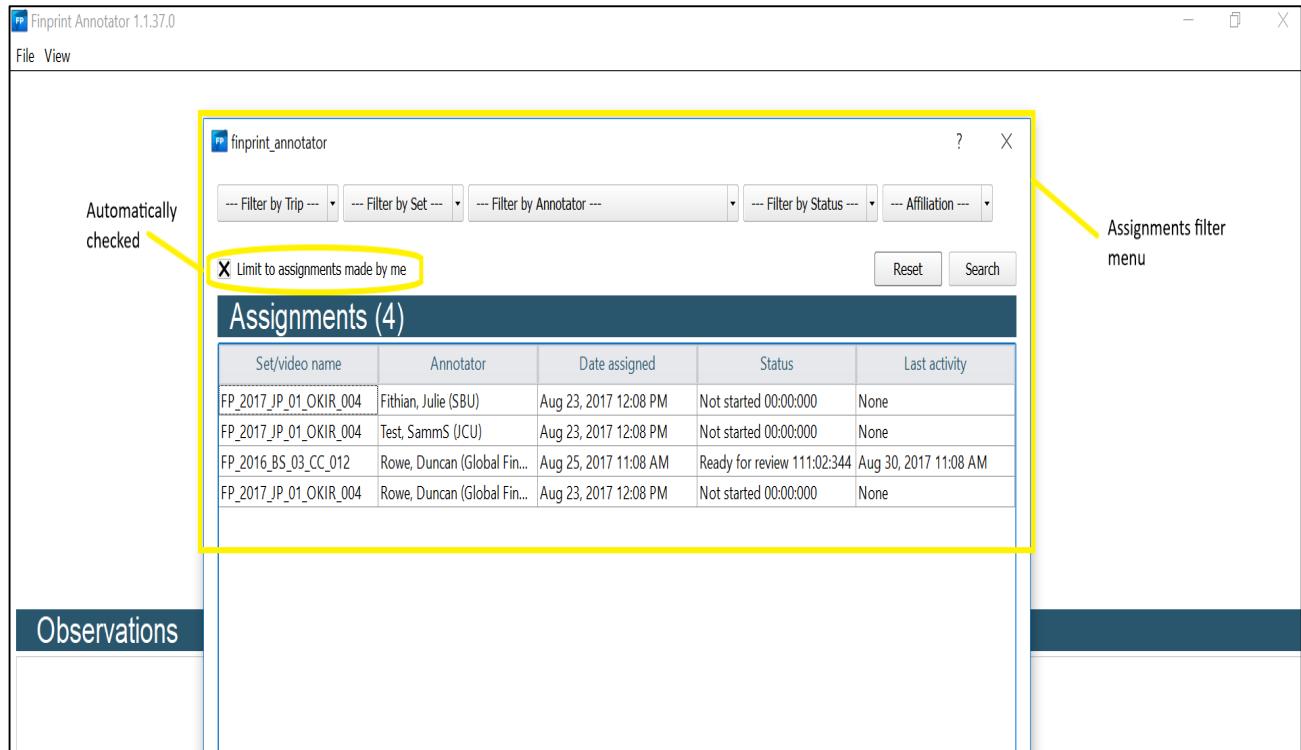
FP_2016_BS_03_CC_012.mp4

Name	Observation Note	Image notes	Tags
			MARK H...
	Animal aggressively removed bait cage from BRUV		Bait Gone
<i>Carcharhinus</i>			Passing
<i>Glymostoma</i>	mxn2		
<i>Glymostoma</i>			Attracted, Aggressive
			MARK ZF

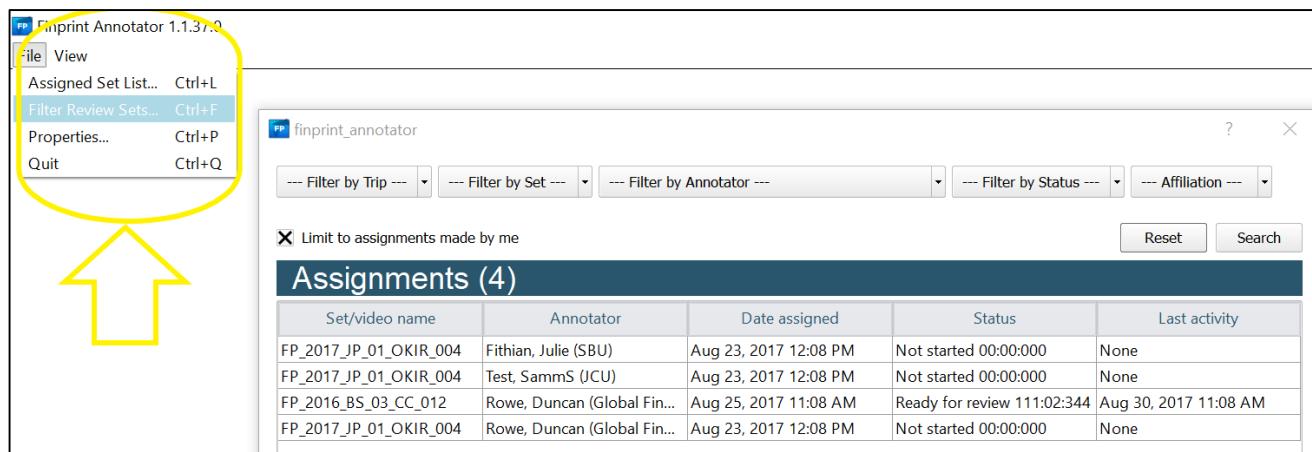
Annotator user guide for Leads/SuperUsers

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 list at any time by using File → Filter Set List, or the shortcut **CTRL-F**.



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

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

fingerprint_annotation

--- Filter by Trip --- --- Filter by Set --- --- Filter by Annotator --- --- Filter by Status --- --- Affiliation ---

--- Filter by Trip ---

FP_2015_AU-P_01
FP_2015_AU-P_02
FP_2015_BS_02
FP_2015_MY_01
FP_2015_SB_01
FP_2016_AS_01
FP_2016_AU-I_01
FP_2016_AU-P_01
FP_2016_BS_01

Limit to assignments made by me

Assignments (4)

	Annotator	Date assigned	Status	Last activity
FP_2015_BS_02	Fithian, Julie (SBU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_01	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

Reset Search

fingerprint_annotation

--- Filter by Trip --- --- Filter by Set --- --- Filter by Annotator --- --- Filter by Status --- --- Affiliation ---

--- Filter by Annotator ---

Abercrombie, David (JCU)
Abrego, Havilah ((No affiliation))
Acevedo, Kyle (JCU)
Acito, Joseph (SBU)
Acra, Lorena (FIU)
Addison, Miriam (JCU)

Limit to assignments made by me

Assignments (4)

Set/video name	Annotator	Date assigned	Status	Last activity
FP_2017_JP_01_OKIR_004	Fithian, Julie (SB)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2017_JP_01_OKIR_004	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

Reset Search

fingerprint_annotation

FP_2016_BS_03 --- Filter by Set --- Rowe, Duncan (Global Fingerprint) --- Filter by Status --- --- Affiliation ---

Limit to assignments made by me

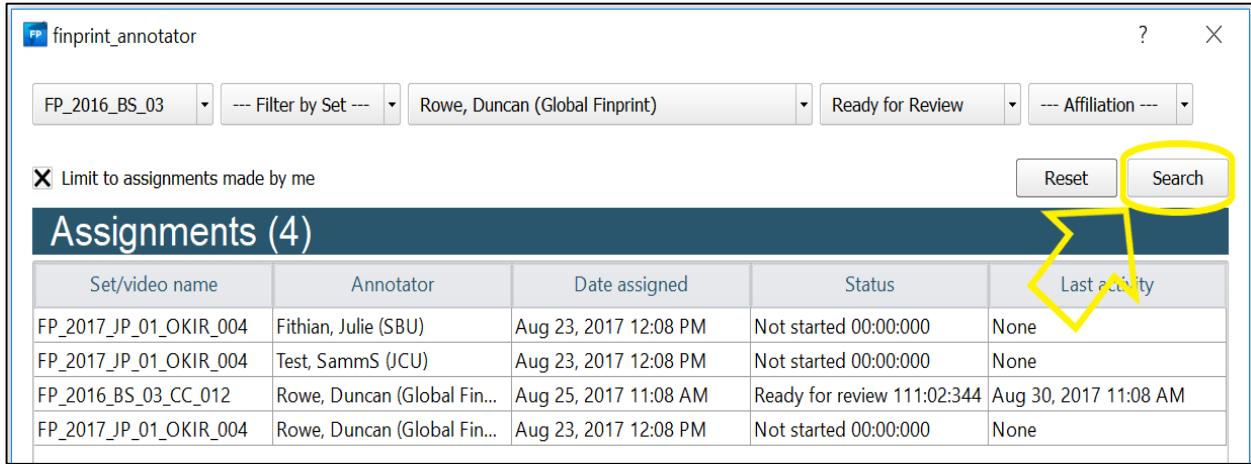
Assignments (4)

Set/video name	Annotator	Date assigned	Status	Last activity
FP_2017_JP_01_OKIR_004	Fithian, Julie (SBU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2017_JP_01_OKIR_004	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

Ready for Review --- Filter by Status --- Not started In progress Ready for Review

Reset Search

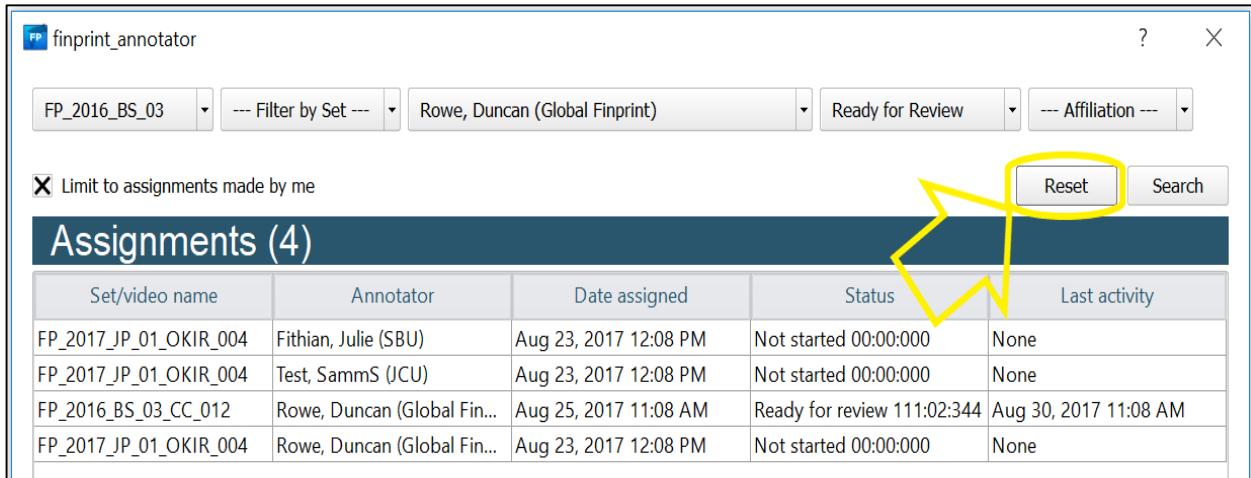
When you are ready, click '**SEARCH**' to proceed.

A screenshot of the 'fingerprint_annotator' software interface. At the top, there are several dropdown menus and buttons: 'FP_2016_BS_03', '--- Filter by Set ---', 'Rowe, Duncan (Global Fingerprint)', 'Ready for Review', and '--- Affiliation ---'. Below these are two buttons: 'Reset' and 'Search', with 'Search' highlighted by a yellow circle and an arrow pointing to it from the left.

Assignments (4)

Set/video name	Annotator	Date assigned	Status	Last activity
FP_2017_JP_01_OKIR_004	Fithian, Julie (SBU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2017_JP_01_OKIR_004	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

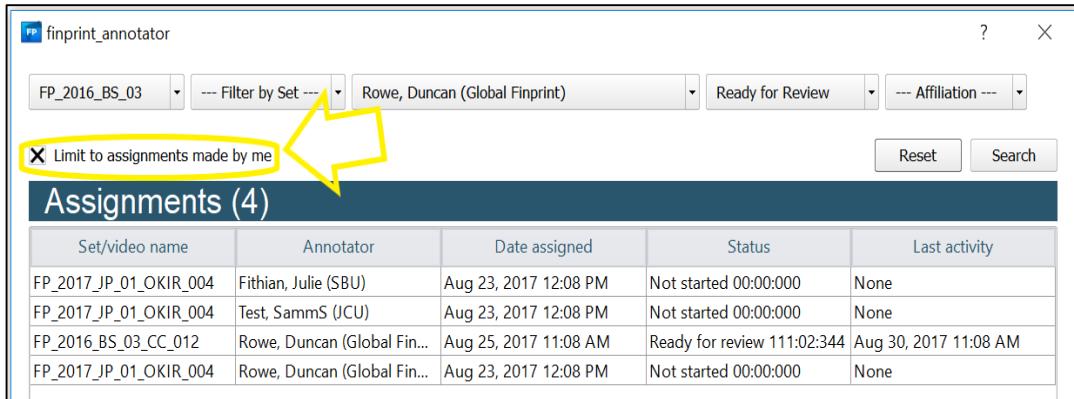
To clear all search fields and start again, click '**RESET**'.

A screenshot of the 'fingerprint_annotator' software interface, identical to the one above but with the 'Search' button now unhighlighted. The 'Reset' button is also highlighted by a yellow circle and an arrow pointing to it from the left.

Assignments (4)

Set/video name	Annotator	Date assigned	Status	Last activity
FP_2017_JP_01_OKIR_004	Fithian, Julie (SBU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2017_JP_01_OKIR_004	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

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

A screenshot of the 'fingerprint_annotator' software interface. The 'Limit to assignments made by me' checkbox is highlighted by a yellow circle and an arrow pointing to it from the left. The 'Search' button is also highlighted by a yellow circle and an arrow pointing to it from the right.

Assignments (4)

Set/video name	Annotator	Date assigned	Status	Last activity
FP_2017_JP_01_OKIR_004	Fithian, Julie (SBU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2017_JP_01_OKIR_004	Test, SammS (JCU)	Aug 23, 2017 12:08 PM	Not started 00:00:000	None
FP_2016_BS_03_CC_012	Rowe, Duncan (Global Fin...	Aug 25, 2017 11:08 AM	Ready for review 111:02:344	Aug 30, 2017 11:08 AM
FP_2017_JP_01_OKIR_004	Rowe, Duncan (Global Fin...	Aug 23, 2017 12:08 PM	Not started 00:00:000	None

To Review an Assignment

Click once on an assignment to highlight it.

The screenshot shows the finprint_annotator application window. At the top, there are dropdown menus for 'FP_2016_BS_03', 'Filter by Set', 'Rowe, Duncan (Global Finprint)', 'Ready for Review', and 'Affiliation'. Below these are buttons for 'Reset' and 'Search'. A checked checkbox labeled 'Limit to assignments made by me' is present. The main area is titled 'Assignments (1)'. A yellow arrow points from the text above to the first row of the table below. The table has columns: 'Set/video name', 'Annotator', 'Date assigned', 'Status', and 'Last activity'. The first row contains the values: 'FP_2016_BS_03_CC_012', 'Rowe, Duncan (Global Fin...', 'Aug 25, 2017 11:08 AM', 'Ready for review 111:02:344', and 'Aug 30, 2017 11:08 AM'. The entire row is highlighted with a yellow border.

Double-click to open it. The video will automatically open, but will not begin playback.

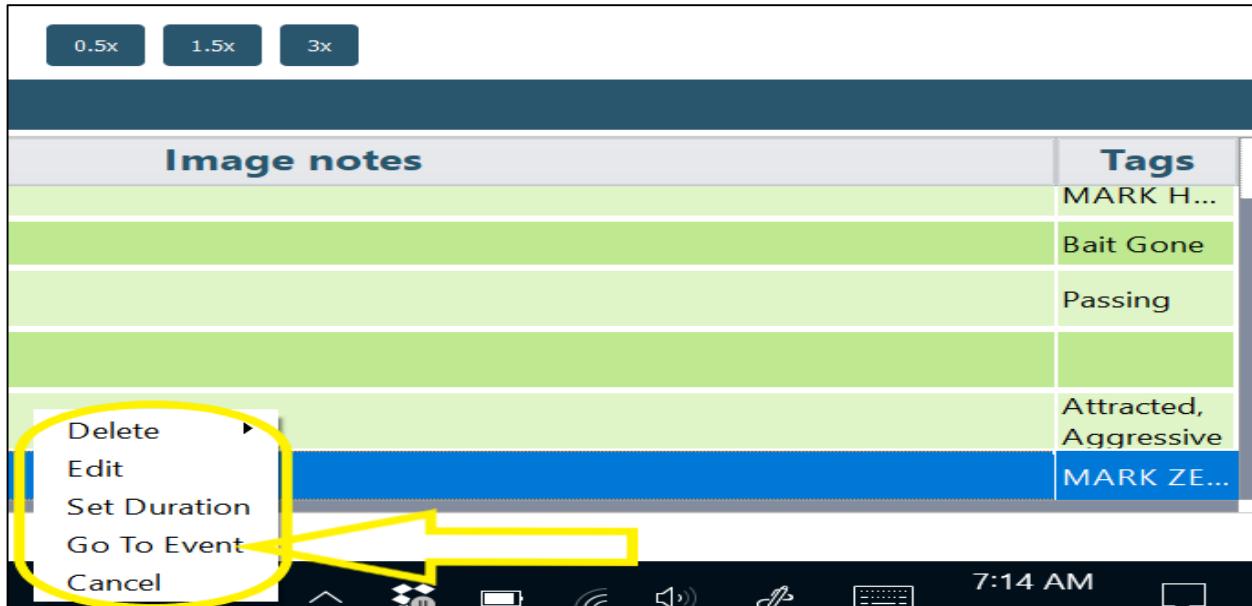
This screenshot shows the finprint annotator interface with various UI elements annotated:

- Accept/Reject assignment buttons**: Two buttons labeled 'accept assignme' and 'reject assignme' are circled in yellow.
- Video playback screen**: A large video frame showing an underwater scene with a shark near a cage, with a yellow border around it.
- Observations table**: A table at the bottom containing observations with columns for Time, Organism, Observation Note, Duration, and Image notes.
- Media controls**: A set of playback controls including arrows, a play/pause button, and a volume icon, with a yellow border around them.
- Video duration**: The text '112:40:254' displayed below the video frame.

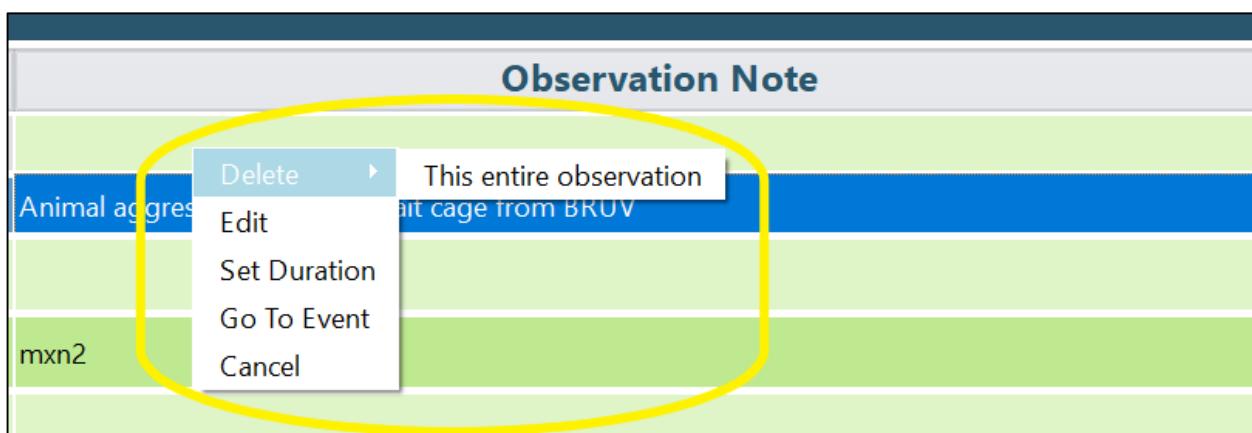
Time	Organism	Observation Note	Duration	Image notes
110:56:628				
65:02:069		Animal aggressively removed bait cage from BRUV		
61:15:683	Blacktip shark (<i>Carcharhinus limbatus</i>)			
60:20:985	Nurse shark (<i>Ginglymostoma cirratum</i>)	mxn2		
52:03:911	Nurse shark (<i>Ginglymostoma cirratum</i>)			

To Assess/Edit Observation Events

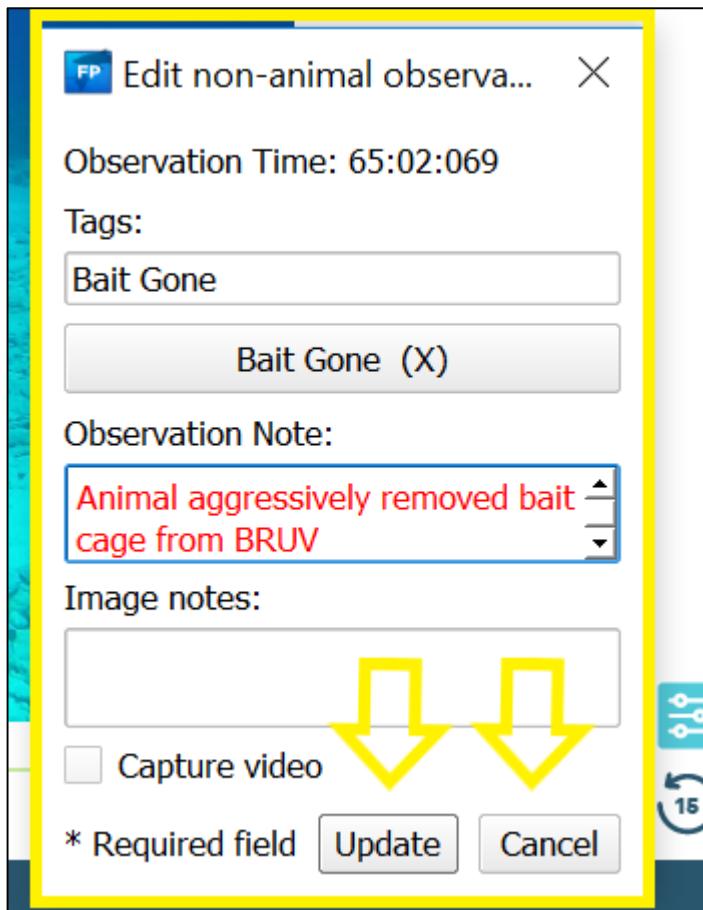
You can use the Observations table to navigate directly to any given Event. Each Observation is listed in reverse chronological order (ie the MARK ZERO TIME observation is listed at the bottom). Click once on an Event to highlight it. Right click to open a pop-up menu. From here, click on 'Go To Event'.



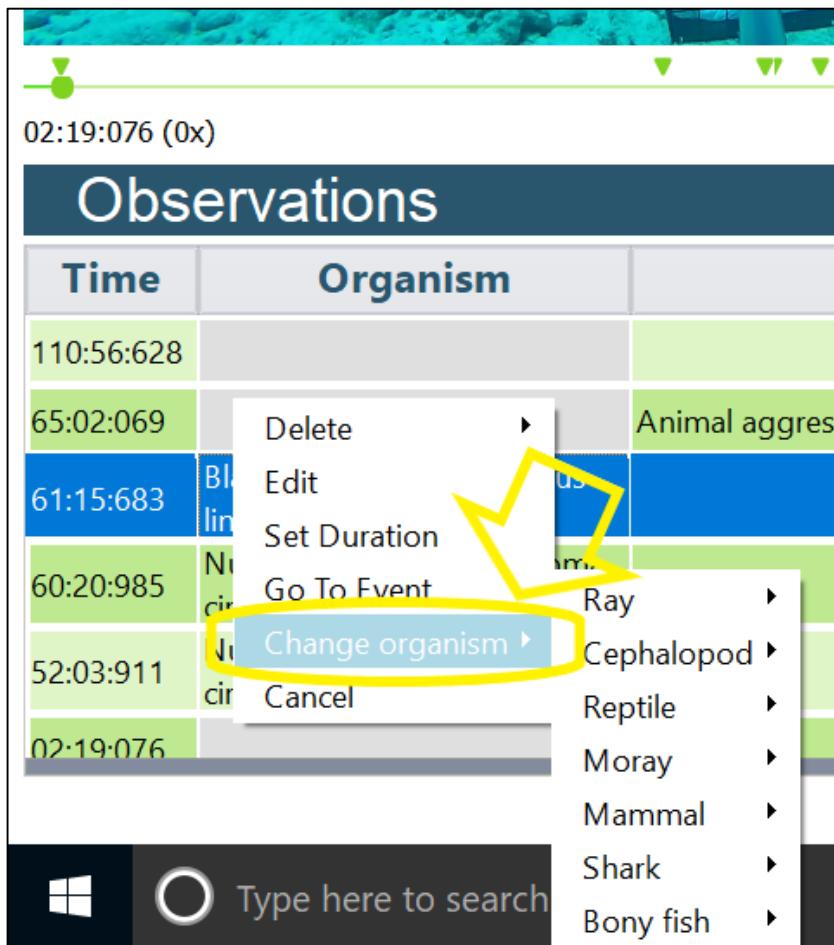
The video will automatically be set to the time of the event, but will not begin playback. You can right-click on any non-animal event to: Go to the Event; Edit the event, Delete the Event, or Set the duration. Clicking 'CANCEL' will exit the pop-up menu.



If you select '**EDIT**', a pop-up window will appear. Make any changes needed, and click '**UPDATE**' to proceed. Click '**CANCEL**' to exit without saving any changes.

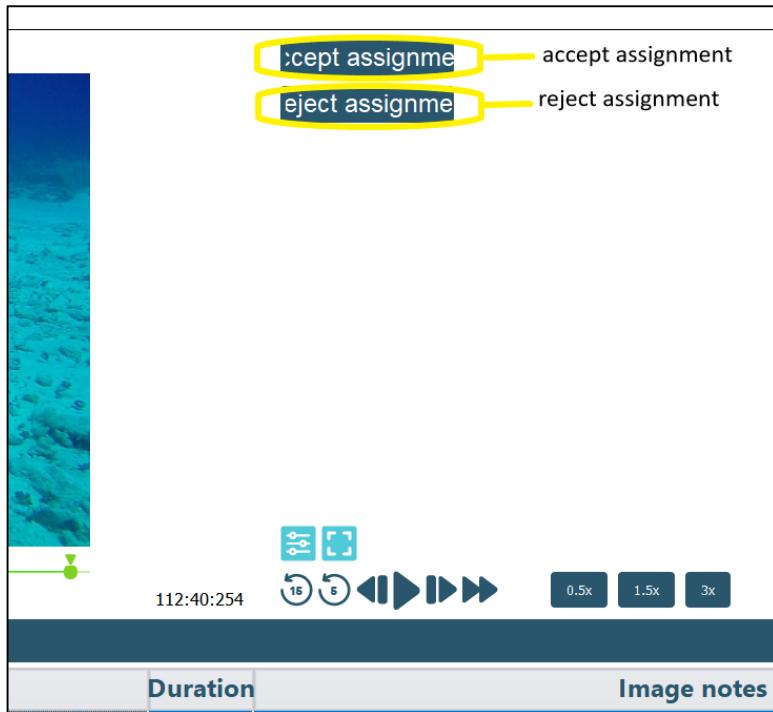


For Animal Events, a further option to '**Change the organism**' will be available. This will provide a drop-down list of available organisms to choose from (see below).



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

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



Updates will automatically be made to the Finprint Global website.

Annotator setup and troubleshooting

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 newer 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

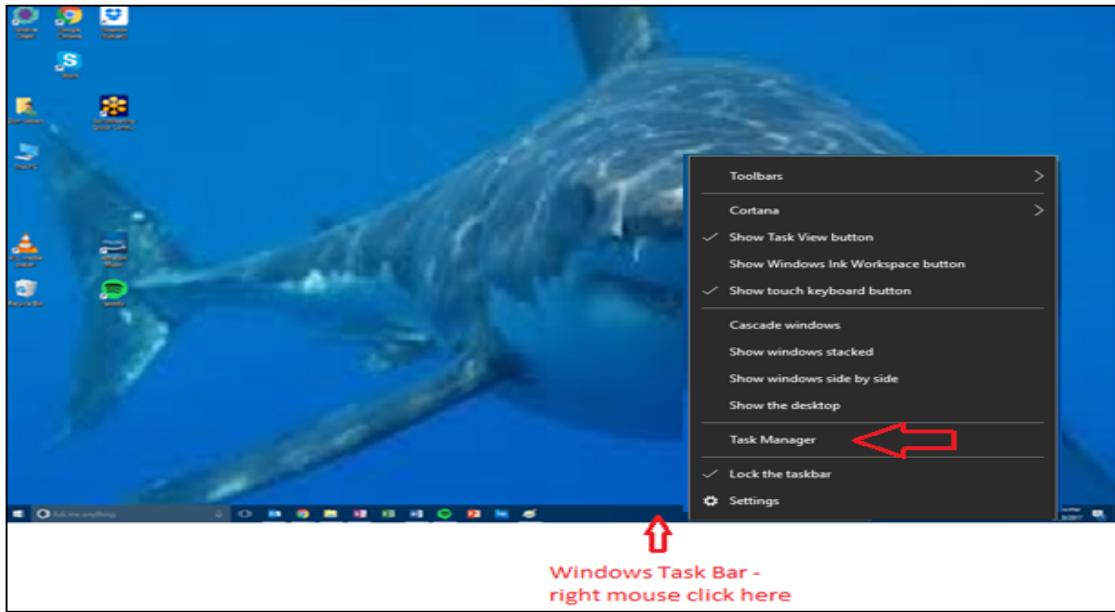
- a. Click the Windows/Start icon in the lower-left corner of the Windows Task Bar at the bottom of the screen
- b. Click the Settings icon (looks like a gear)
- c. Click 'System'
- d. Click 'Power and Sleep' from the menu on the left
- e. Click the 'Additional Power Settings' link
- f. Select either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

Or Control panel

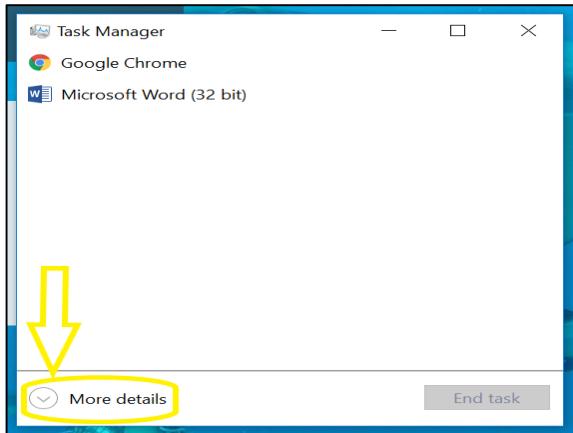
- a. Click the Windows/Start icon in the far-left corner of the Windows Task Bar at the bottom of the screen and type "control panel" **OR** type "control panel" into the Cortana input box in the lower left part of the Windows Task Bar.
- b. Click on 'System and Security'
- c. Click on 'Power Options'
- d. 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:

Name	CPU	Memory	Disk	Network
> VirusScan On-Demand Scanner ...	25.0%	7.0 MB	5.9 MB/s	0 Mbps
System	2.4%	0.1 MB	3.2 MB/s	0 Mbps
Shell Infrastructure Host	1.8%	4.5 MB	0 MB/s	0 Mbps
Desktop Window Manager	1.8%	66.5 MB	0 MB/s	0 Mbps
Cortana	1.6%	68.0 MB	0.1 MB/s	0 Mbps
> Windows Explorer	1.1%	32.9 MB	0 MB/s	0 Mbps
> Task Manager	1.0%	12.2 MB	0 MB/s	0 Mbps
Dropbox (32 bit)	0.8%	42.1 MB	0 MB/s	0 Mbps
> Antimalware Service Executable	0.7%	63.1 MB	0.1 MB/s	0 Mbps
> Microsoft Windows Search Inde...	0.7%	33.9 MB	0 MB/s	0 Mbps
> Service Host: DCOM Server Pro...	0.7%	10.1 MB	0.1 MB/s	0 Mbps
System interrupts	0.7%	0 MB	0 MB/s	0 Mbps
> Windows Audio Device Graph Is...	0.6%	6.9 MB	0 MB/s	0 Mbps
> Spotify (32 bit)	0.6%	54.8 MB	0 MB/s	0 Mbps
> Paint	0.6%	28.3 MB	0 MB/s	0 Mbps

(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.

Name	CPU	Memory	Disk	Network
> VirusScan On-Demand Scanner ...	41%	59%	16%	0%
System	2.4%	0.1 MB	3.2 MB/s	0 Mbps
Shell Infrastructure Host	1.8%	4.5 MB	0 MB/s	0 Mbps
Desktop Window Manager	1.8%	66.5 MB	0 MB/s	0 Mbps
Cortana	1.6%	68.0 MB	0.1 MB/s	0 Mbps
> Windows Explorer	1.1%	32.9 MB	0 MB/s	0 Mbps
> Task Manager	1.0%	12.2 MB	0 MB/s	0 Mbps
Dropbox (32 bit)	0.8%	42.1 MB	0 MB/s	0 Mbps
> Antimalware Service Executable	0.7%	63.1 MB	0.1 MB/s	0 Mbps
> Microsoft Windows Search Inde...	0.7%	33.9 MB	0 MB/s	0 Mbps
> Service Host: DCOM Server Pro...	0.7%	10.1 MB	0.1 MB/s	0 Mbps
System interrupts	0.7%	0 MB	0 MB/s	0 Mbps
Windows Audio Device Graph Is...	0.6%	6.9 MB	0 MB/s	0 Mbps
> Spotify (32 bit)	0.6%	54.8 MB	0 MB/s	0 Mbps
> Paint	0.6%	28.3 MB	0 MB/s	0 Mbps

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.

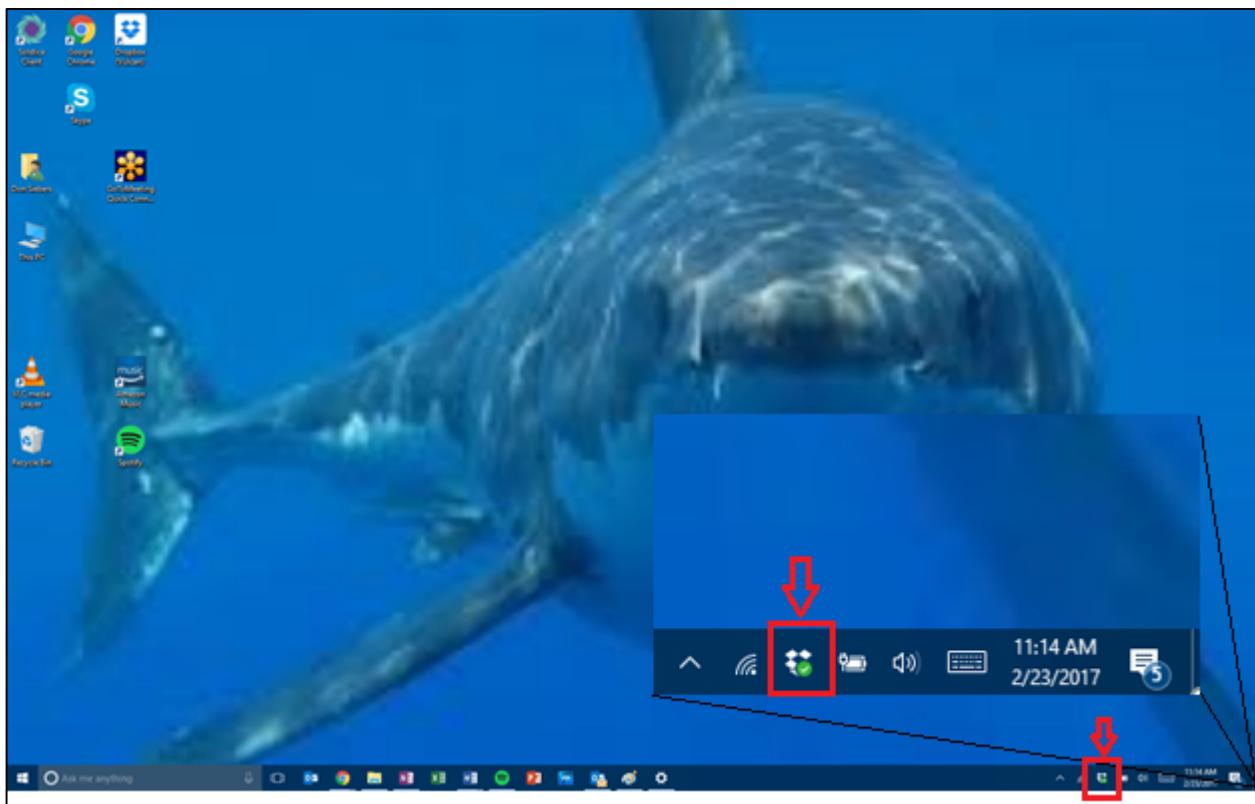
Disable the syncing service of applications such as Dropbox, Google Drive, and Microsoft OneDrive

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

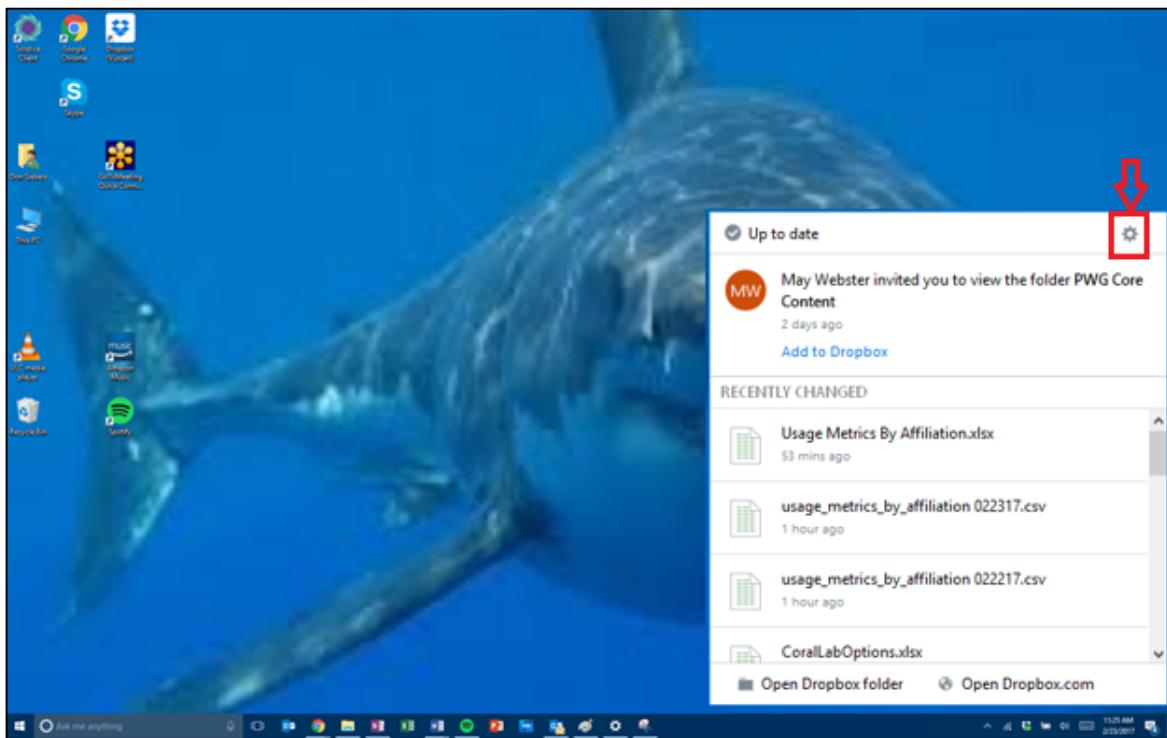
unique way for disabling the sync service, but below is an example of how to do so for one of the more common cloud file services – Dropbox, as well as links to disabling Google Drive and Microsoft OneDrive. When you have finished using the annotator, you can go back into the application settings and re-enable the sync process.

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

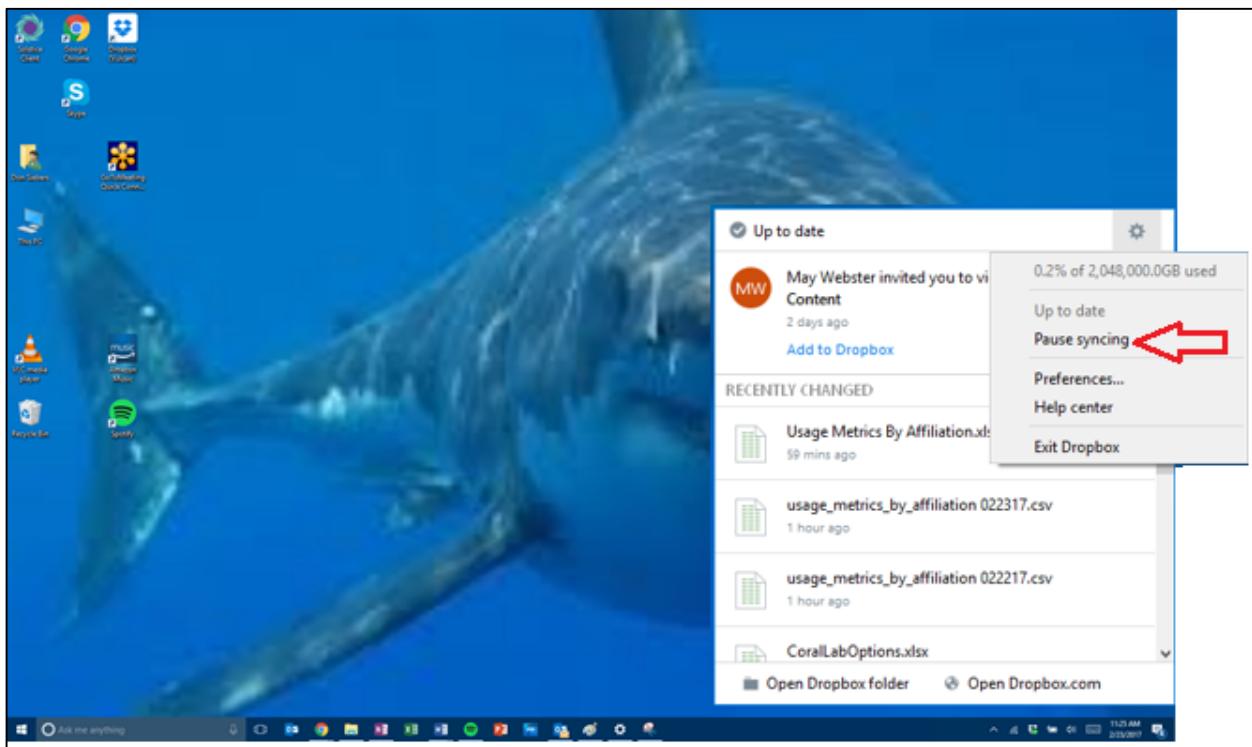
If Dropbox is running on your machine, you should see an application icon in the System Tray in the right-hand corner of the Windows Task Bar along the bottom of the computer screen. Click on this icon to pull up a Dropbox menu.



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.

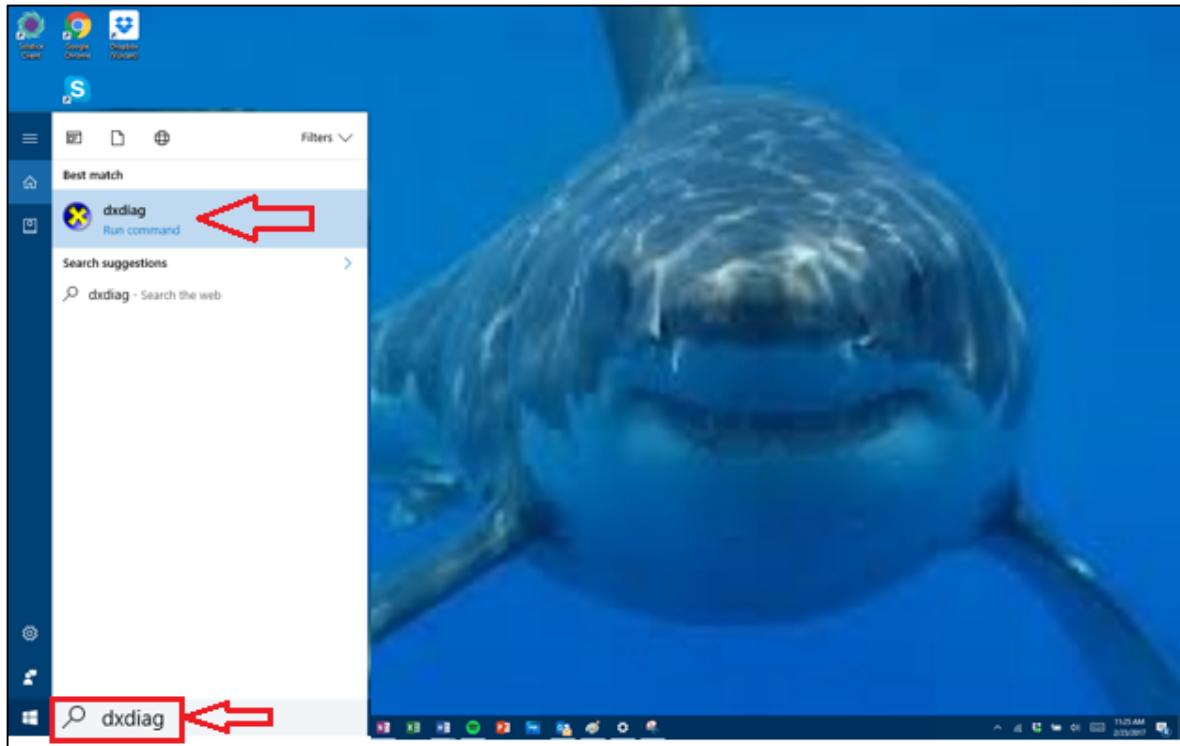
Additional Troubleshooting: Sending computer info to your Lead

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.

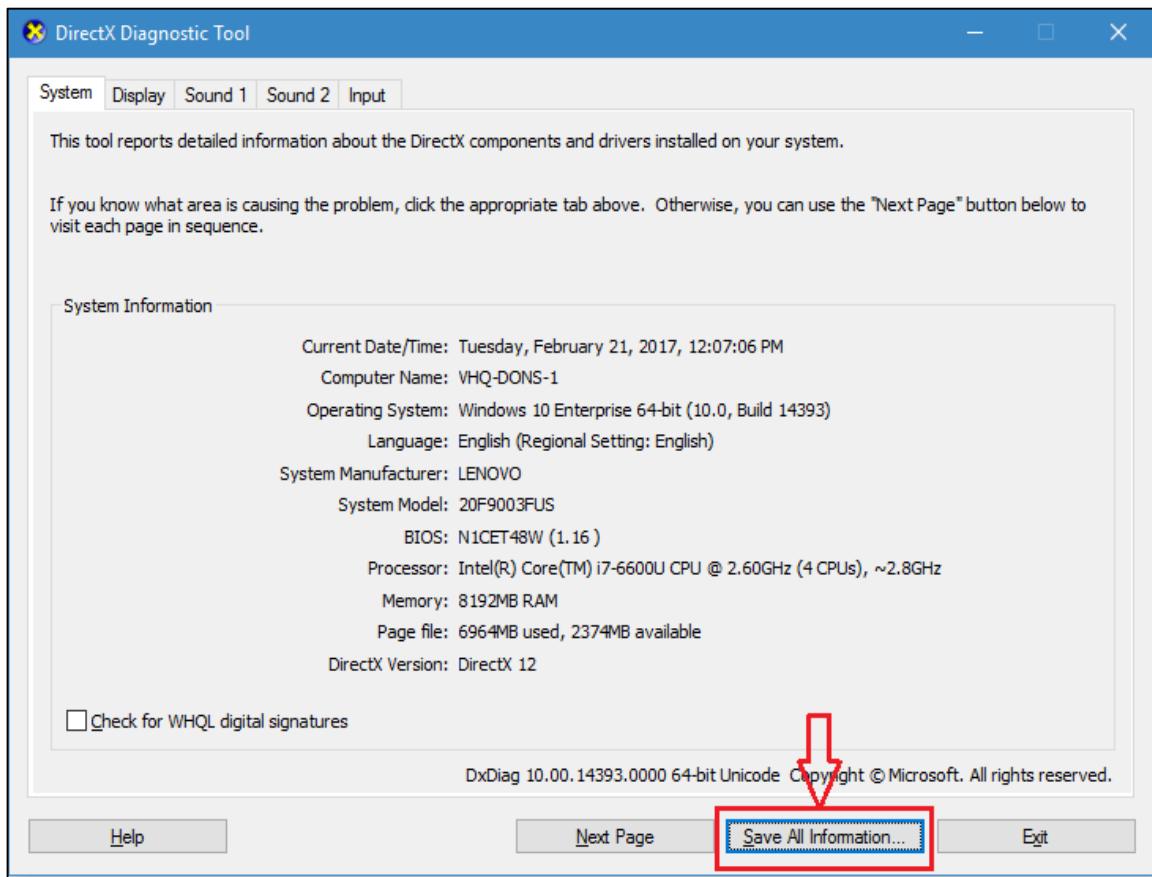
Create a “DxDiag.txt” File

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.

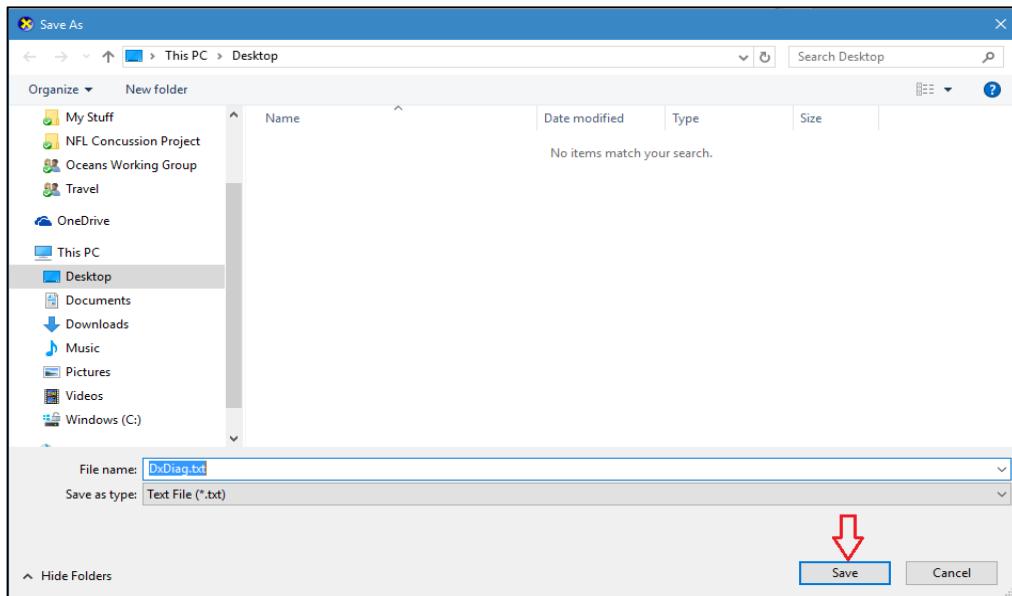
Click the Windows/Start icon in the far-left corner of your Windows Task Bar and type '**dxdiag**' OR type **dxdiag** into the Cortana input box in your Windows Task Bar and select the '**dxdiag (Run Command)**' in the results menu.



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).

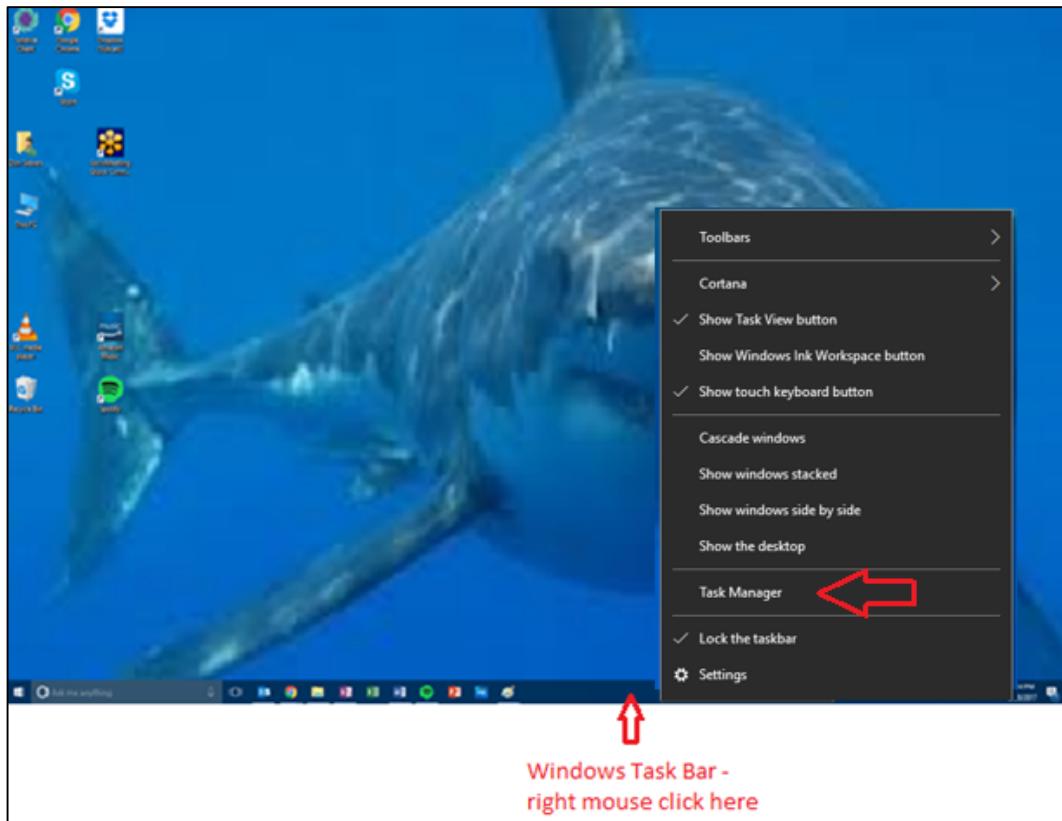


Email this DxDiag.txt file to your FinPrint Lead. They will review your computer's system profile to determine what other next steps can be taken.

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.



Task Manager

File Options View

Processes Performance App history Startup Users Details Services

Name	5% CPU	63% Memory	0% Disk	0% 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
Goole Chrome	0%	182.2 MB	0 MB/s	0 Mbps

(^) Fewer details End task

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.