Lesson 8

Working with Audio on the Edit Page

EDIT

Depending on the size of your project, you may be responsible for the basic audio tracks or for the entire sound design. Even if you plan to hand off your final mix to an audio editor, you still need to give your client a sense of what that final audio mix may sound like.

On the edit page, DaVinci Resolve includes audio editing and mixing tools to help you mix your soundtrack. DaVinci Resolve also includes all the capabilities of a full-blown digital audio workstation (DAW) on its Fairlight page. In this lesson, you will work on the edit page to create additional audio tracks for sound effects, and then set the audio levels to create a balanced mix.

Time

This lesson takes approximately 80 minutes to complete.

Goals

Working with Markers

You will create your mix using a similar version of the current timeline. Because that timeline already has narration and music in place, you'll begin by identifying areas that could benefit from sound effects. You can use markers to annotate clips in the source, identify a specific time in the timeline, or label a range of time. Such markers are often used as reminders for a task that you want to do later. In this timeline, you'll add markers in the timeline to identify the four areas that need additional sound effects. The first step will be to import the timeline.

1 Open the Age of Airplanes project.

2 Choose Workspace > Reset UI Layout to return to the default dual viewer layout.

3 Select the Rough Cuts bin and then choose File > Import >Timeline.

4 In the File browser window that opens, navigate to the R17 Beginners Guide lesson folder, select the Lesson 8 folder, and import the CH08 AUDIO (Resolve).drt.

   The CH08 AUDIO (Resolve) timeline is added to the Rough Cuts bin and is loaded into the timeline window.

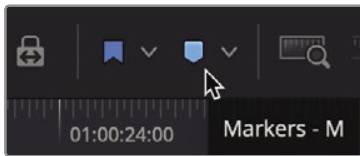5 In the timeline, position the playhead in the middle of the "01_ST MAARTEN" clip.

   This clip could use a nice, big roaring jet sound. To place a marker here, you must first select the clip.

6 Using the Selection mode tool, click the clip in the timeline.

   You can add markers using the Marker button in the toolbar.

7 Click the Marker button.

> **TIP** You can turn the marker visibility on and off in the viewers using the Options menu.

A blue marker is added to the selected clip in the timeline at the current playhead position.

8 On the clip, double-click the blue marker; or, select the marker, and press Shift-M to open the Markers dialog.
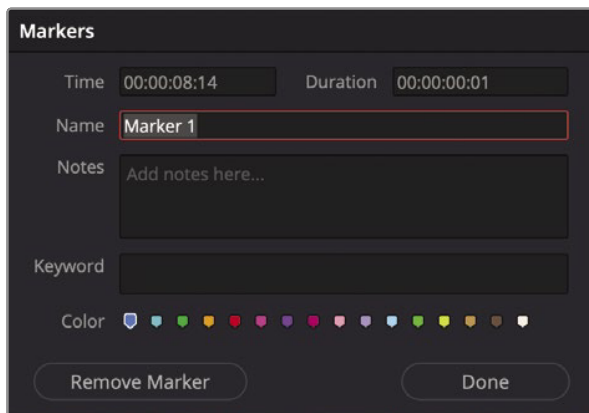
You can change the color of markers to further organize your work. For instance, you could add green markers where graphics were needed and purple markers where effects were needed. You could also add notes to markers that are more descriptive of your changes.

9 Click the red color swatch, and in the Name field, type **SFX**. In the Notes field, type **Add Roaring Jet**. Click Done.

With one clip completed, you have two remaining timeline locations that need markers and notes.

10 In the timeline, position the playhead in the middle of the "09 MALDIVES" clip and select it.

For this clip, you'll use the fastest method, a keyboard shortcut.

11 Press the M key twice. The first M key press adds the marker; the second press opens the Markers dialog.

12 In the dialog Name field, type **SFX**; in the Notes field, type **Add Overhead Sea Plane**, and make the marker red. Click Done.
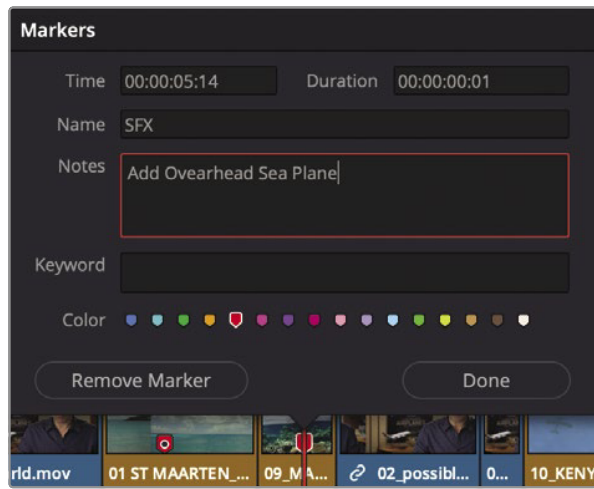

> **TIP** To delete a marker, open the Markers dialog, and click the Remove Marker button, or select the marker, and press the Delete or Backspace key.

13 Next, position the timeline playhead at the start of the "05 AERIAL ALASKA" clip.

14 Click in an empty gray area above the clip so nothing is selected in the timeline.

15 Press the M key.
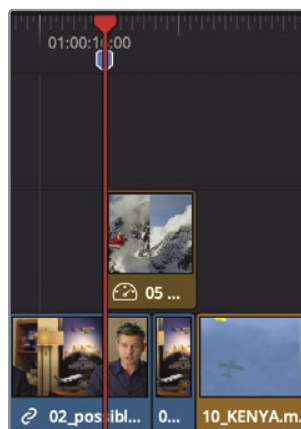
The marker is added to the timeline ruler under the playhead location. Unlike the other markers applied to the clip, if you were to drag or cut and paste the "05 AERIAL ALASKA" clip to a new location in the timeline, the marker would not move with it. With that exception, the marker works the same as the clip markers.

16 Press M again to open the Markers dialog, and in the Name field, type **SFX**. In the Notes field, type **Add Prop Plane**, and make the marker red. Click Done.
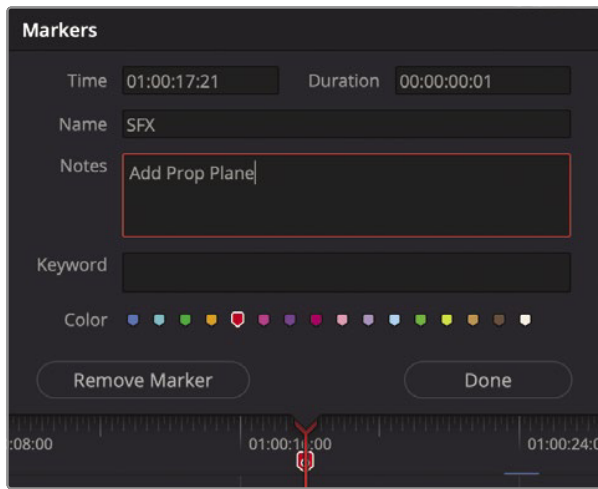

> **TIP** Ripple trimming a clip in the timeline will move a marker in the timeline ruler to the same duration as the trim.

All your red color markers are added into the program.

Marking a Range of Frames

Markers are not limited to identifying a single frame on a clip or in the timeline ruler. You can also use them to mark a range of frames. Let's mark a clip range where you want to add a comment about a visual correction you want made to a clip. Because you are no longer marking audio changes, you'll use a new color marker.

1 In the toolbar, drag the zoom slider to zoom in to the "05 AERIAL ALASKA" clip where you just added a red marker.

2 Option-drag (macOS) or Alt-drag (Windows) the marker to the end of the "10 KENYA" clip.
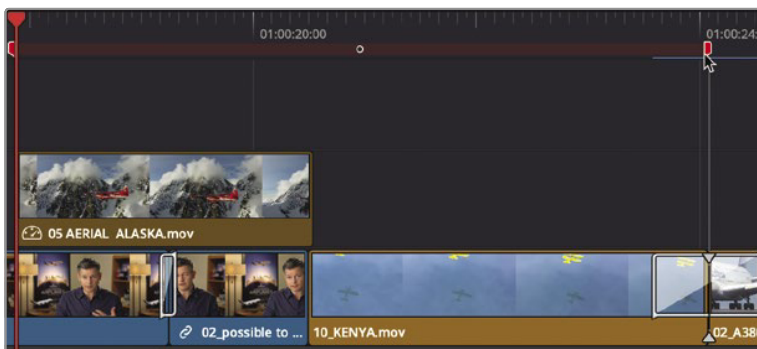
The marker expands to cover the length of the two clips that can share the same sound effect.

Although in most cases a simple note will provide enough context for any change you may want to make, sometimes a picture is worth more than five or six words.

Annotating on Markers

You can add more details to marker notes using drawing tools built into each marker. Instead of just typing to move the plane down, you can draw on the frame to show roughly where you want the plane to be placed.

1   Press Shift-Z to see the entire timeline, and move the playhead to the middle of the first interview.

2   Select the first interview clip in the timeline.

3   In the lower-left corner of the timeline viewer, in the overlay onscreen controls drop-down menu, choose Annotations.
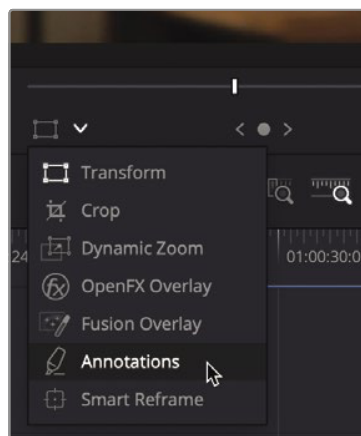
TIP In the timeline viewer drop-down menu, choosing Annotations will automatically add a marker when one doesn't exist at the current position.

Enabling the onscreen controls for annotations adds an annotation toolbar in the upper-left corner of the viewer with three options: The Draw tool, the Arrow tool, and a Color drop-down menu. In this case, we will draw over the lamp on the left to indicate an area we want the colorist to darken.
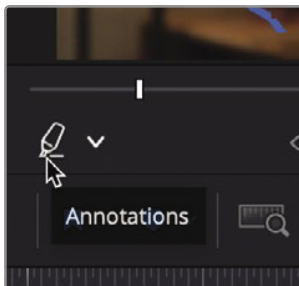
4 Draw a squiggly line over the lamp from the top of the frame to the bottom.
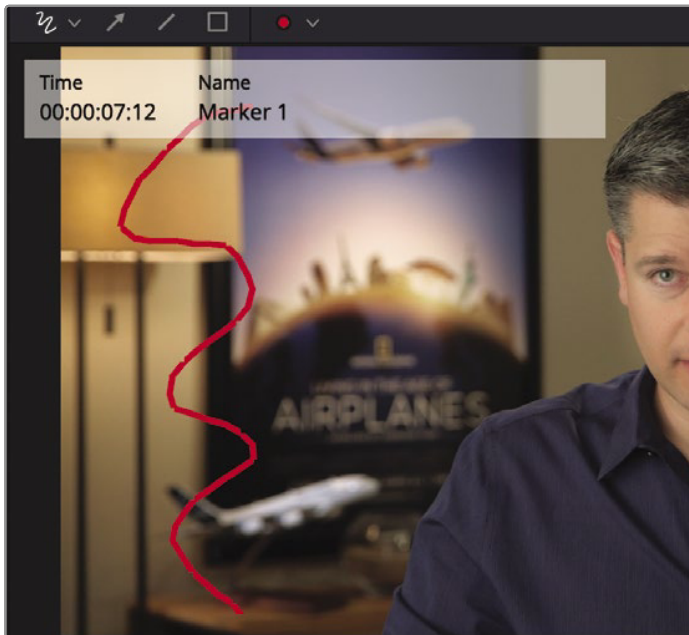
5 In the Color drop-down menu, choose blue.

> **TIP** Selecting a line or arrow and pressing the Delete or Backspace key will remove an annotation.

6 In the timeline viewer, click the Annotation tool to hide the annotations toolbar.


You could use different annotations, colors, and names of markers for colorists, sound editors, and visual effects and other people working on the project. For now, you'll continue using markers for audio because you need to locate the sound effects that you want to use that match your marker notes.

Adding Markers in the Source Viewer

You'll also find markers invaluable when applied to source clips. Markers on a source clip can add notes as in the timeline. You also can use markers to identify multiple areas of a clip that you may want to use in your timeline. In this way, markers can be used as placeholders for multiple In and Out points.

1 In the Audio bin, double-click the "Sound FX" clip to open it in the source viewer.
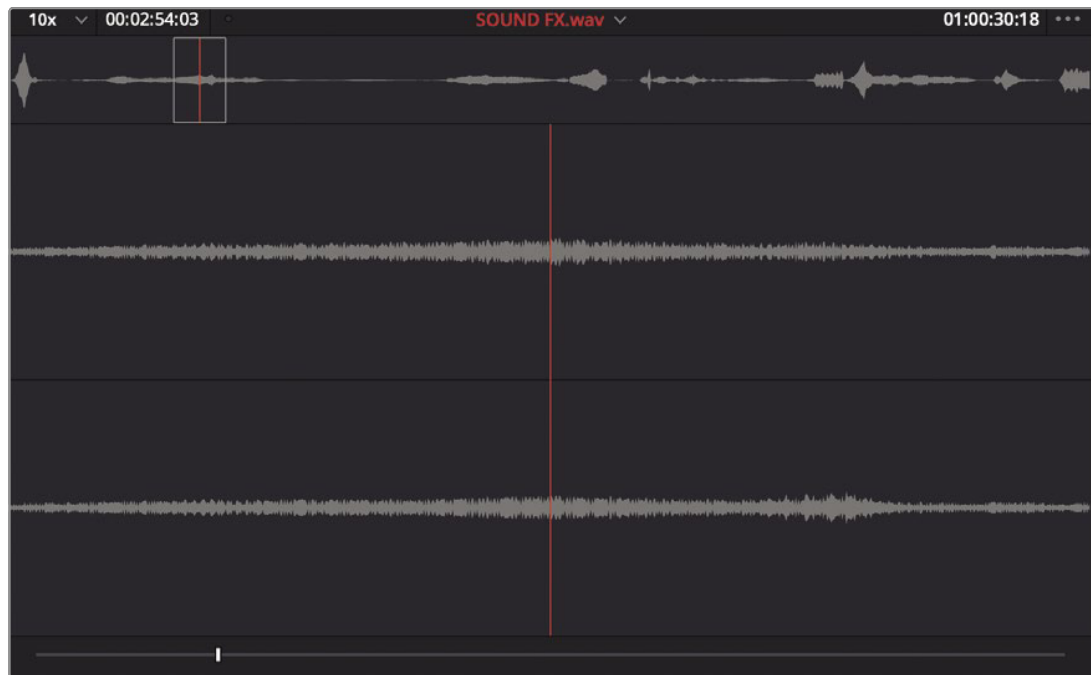


2 Play the first 5 seconds of the "Sound FX" clip.

Fortunately, the first sound effect in this clip is a prop plane buzzing. To add a marker to the source clip in the viewer, you can use the same keyboard shortcut.

3 Position the source viewer's jog bar over the peak of the sound effect (the highest part of the waveform).
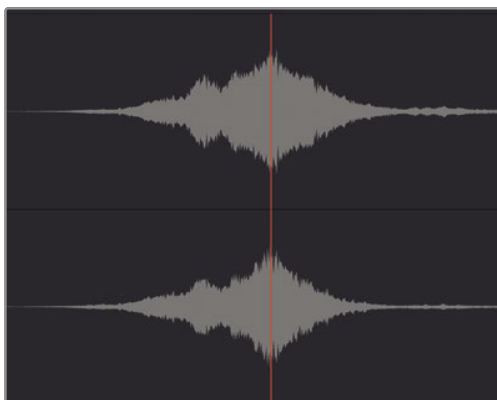
4 Press the M key. A marker is added to the source clip under the source viewer's jog bar. You also can add notes to source clip markers.

**5** Press M again to open the Markers dialog, and in the Name field, type **Prop Plane Overhead**.
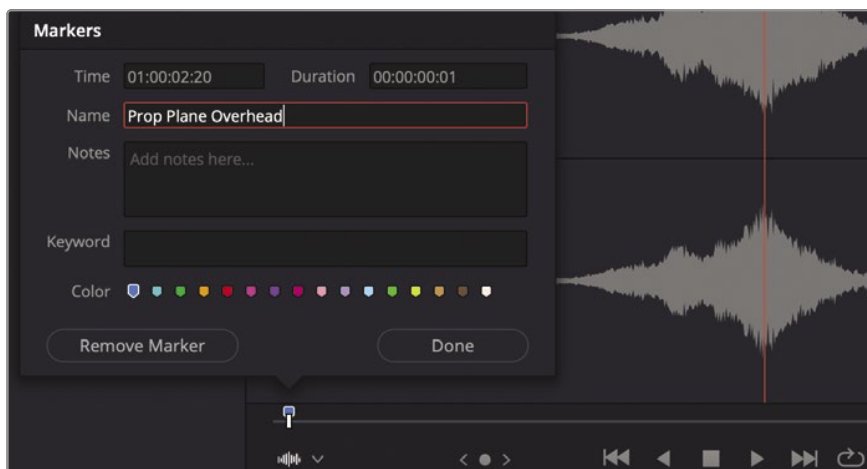
6 Click Done.

Your first sound effect is marked and identified. The marker will help you locate this effect later when you want to begin editing.

## Marking a Range in the Source Viewer

In the source viewer, marking a range is a bit different than doing so in the timeline. Dragging out the duration of the marker can be trickier because you can't zoom into the source viewer jog bar. But using marker durations in the source viewer can be very helpful to simulate multiple In and Out points on a clip. You can use this function in a long sound effects clip that may contain multiple effects that you want to use. Considering the previous marker that you added in the source viewer, you need to locate two more sounds for your program. First, you'll look for a loud prop plane sound for the "Alaska" shot.

1 In the source viewer, continue playing the "Sound FX" clip for about 30 seconds.

Somewhere in that 30 seconds is a loud, good-sounding prop plane takeoff. Before you decide to use this sound effect, you can use markers to identity a potential range for the "05 AERIAL ALASKA" and "09 KENYA" clips. Then, you can continue to search the source clip for possible alternatives.

2 In the source viewer, position the jog bar where the prop plane sound effect begins.
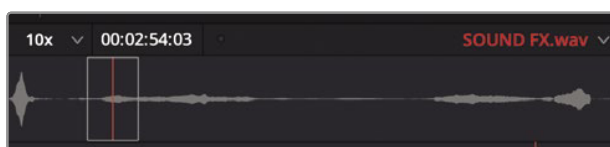
The initial sound of the prop plane engine would not fit the visual of the "05 AERIAL ALASKA" and "10 KENYA" clips. You'll need to play a little farther into the sound effect and place a marker when the engine really gets going.

3 Play the clip to find a location where the engine sound is revving loudly.

4 Press M to add a marker in the source viewer.

5 Press M a second time to open the Markers dialog. In the Name field, type **Loud Prop Plane**.
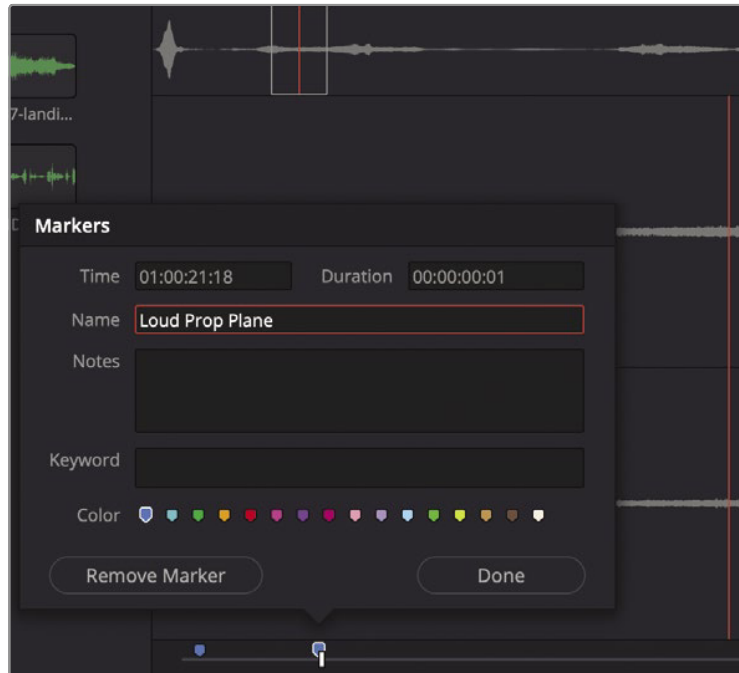
6 To extend the range of the marker, click at the end of the Duration field, and delete the last three digits.

7 Type **500** to create a duration of 5 seconds, and press Return or Enter on the keyboard.
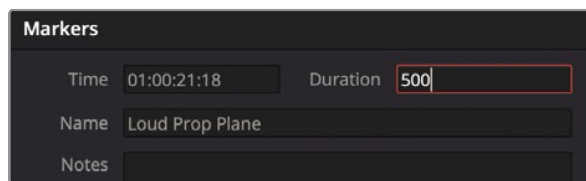

> **TIP** Instead of entering a duration for the marker range, you could Option-drag (macOS) or Alt-drag (Windows) the marker to extend the range.

You have one more marker to add. This time you'll add In and Out points around the area you are interested in and then convert them to markers.

This will be a roaring jet for the "01 ST MAARTEN" clip.

8 Drag the jog bar slowly across the clip until you hear the loud jet takeoff, somewhere near the middle of the clip. (Hint: A medium-sized peak can be found in the audio waveform where the jet sound is located.)
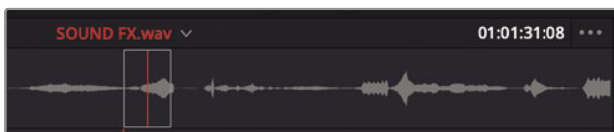
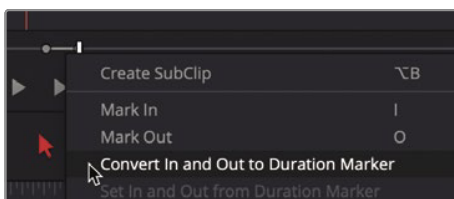Once you locate the start of the jet sound, you'll use an In and Out point to mark the range.

9 In the source viewer, position the jog bar where you hear the jet takeoff start.
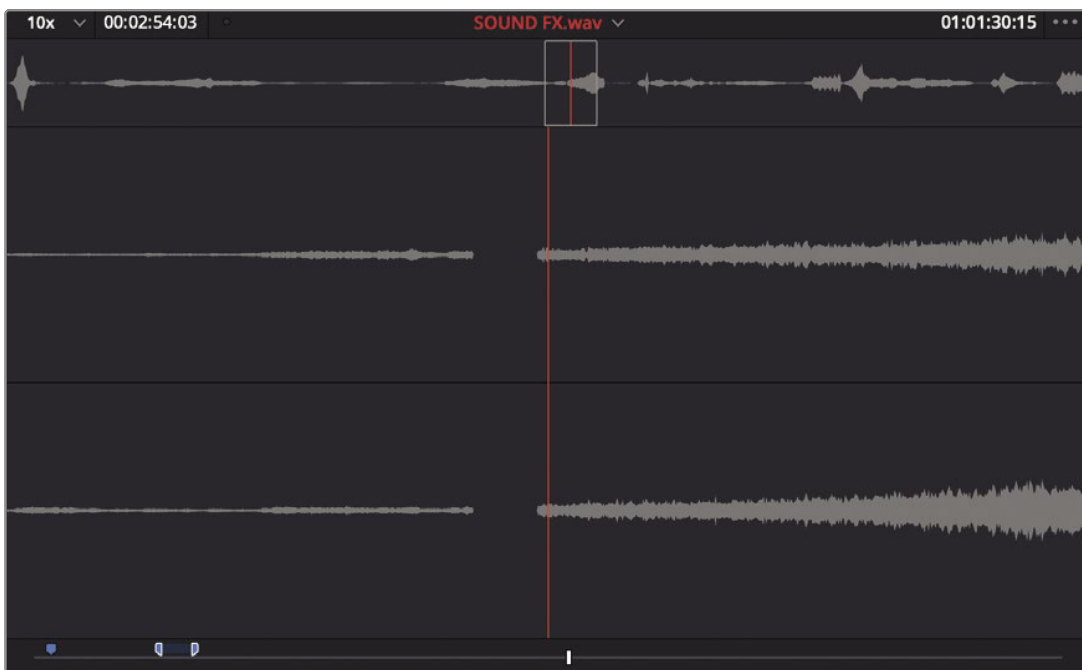

10 Mark an In point, and then locate the end of the sound and mark an Out point.

11 Right-click between the marked In and Out points, and in the pop-up menu, choose Convert In and Out to Duration Marker.

The Duration marker is added to identify the same frames as the In and Out points. You can use the same pop-up menu to open the dialog.

12 Right-click in the marker range, and in the pop-up menu, choose Modify Marker. The Markers dialog opens.
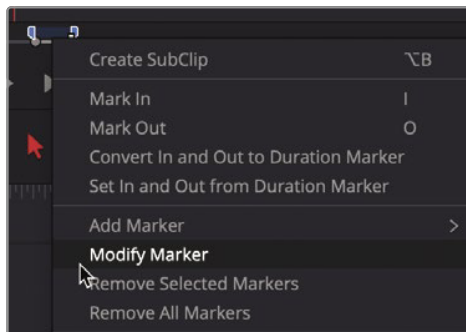
13 In the Name field, type **Jet Takeoff** and click Done.

To make sure you do not accidently use the In and Out points you currently have in the source clip, you'll need to remove them.

**14** Choose Mark > Clear In and Out or press Option-X (macOS) or Alt-X (Windows).

You've identified sound effects that fill the requirements of the markers in the timeline. Now, you'll edit them into your trailer to enhance the cinematic experience.

Customizing the Interface for Audio

Throughout this lesson, you'll work on the audio tracks, so it makes sense to customize the timeline view by increasing the audio track heights so you can more clearly see the audio waveform displays. Doing so will help you locate specific sounds and evaluate the audio more effectively. Furthermore, those waveforms are a handy visual reference to determine the volume of the audio.

To open up more room in the timeline for audio tracks, you can push the tracks up, thereby removing some of the headroom that exists above the video track.

1   Locate the mouse pointer between the video track and the audio tracks in the timeline.
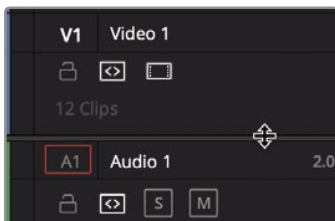

The pointer changes to a resize cursor, indicating that you can drag up or down to assign more or less room to audio or video tracks.

2   Drag up on the horizontal divider that separates the audio and video tracks until the video track is at the top of the timeline.

You can change the appearance of the tracks in the Timeline View Options menu.

3   In the toolbar, click the Timeline View Options button to open the drop-down menu.
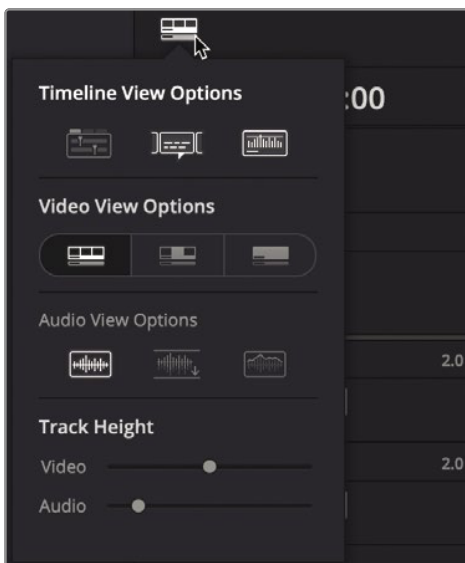
Here you will change the height of the video and audio tracks to suit your upcoming tasks.

4   In the Video View Options section, click the rightmost track appearance button to remove the thumbnails on the video tracks.

5   Drag the video track height slider as far to the left to decrease the track size without losing the markers on the tracks.

6 Drag the audio track height slider about a third of the way to the right to increase the track size. Make sure to leave some room at the bottom of the timeline for an extra audio track that you will add.

7 Click the Timeline View Options button to hide the drop-down menu.

Now your timeline is better configured for audio editing and mixing. You'll later add other interface elements to help control and monitor the audio, but for now, displaying larger waveforms in the timeline will help you edit in the sound effects.

Adding and Patching Tracks

Your timeline is fairly well organized considering the small amount of audio that it contains. Audio 1 is devoted to the interview, and Audio 2 is devoted to music. To keep those tracks organized, you'll insert an empty audio track to accommodate the new sound effects.

1 In the timeline header, right-click over the Audio 2 timeline header to open the contextual menu.

This menu has options to add, move, and delete tracks. Your stereo sound effects need to be edited into a new stereo audio track.

2 In the contextual menu, choose Add Track > Stereo.
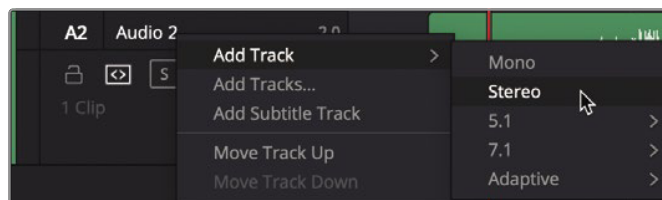
> **TIP** In the timeline, audio clips with multiple channels are displayed as a single audio clip on a single track. When you first create a new audio track, you choose its audio format (mono, stereo, 5.1 surround, or multi-channel). You can, however, change it later.

An Audio 3 track is added to the timeline. Now you need to patch the track so that the audio content in the source clip is edited onto this new Audio 3 track.

3 Drag down the A1 destination control to Audio 3 to align the A1 track in the source viewer with the Audio 3 track in the timeline.
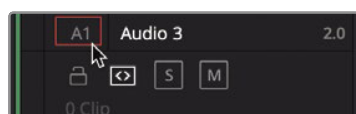
Now that the tracks are patched, you can edit your first sound effect into the timeline, and it will be edited onto the timeline's Audio 3 track. Let's locate that first sound effect.

4   In the source viewer, navigate to the first marker in the clip by choosing Playback > Previous Marker three times or by pressing Shift-Up Arrow three times.
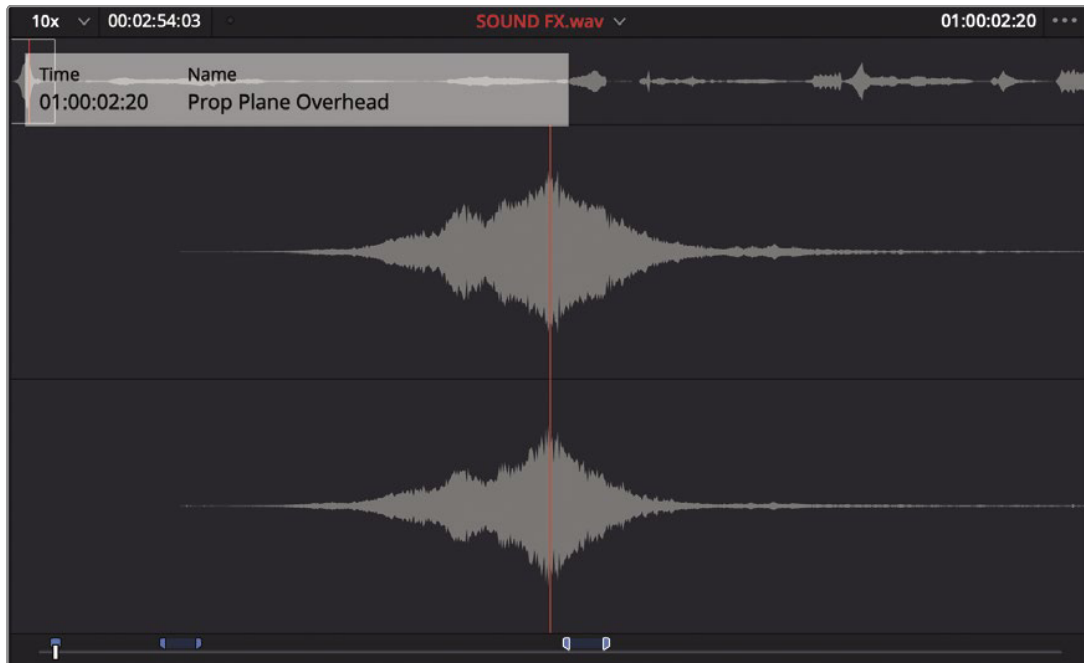

The source viewer should be located at the first marker. The marker overlay in the viewer shows that this is an overhead prop plane. This may work perfectly for the "Maldives" clip where the plane flies over the top of the frame.

5   Click in the timeline viewer, or press the Q key, to activate the timeline viewer.

6   Navigate to the marker over the "09 Maldives" clip by choosing Playback > Next Marker or by pressing Shift-Down Arrow.

One of the best ways to edit sound effects is to use the replace edit that you used previously. When adding sound effects, you are typically trying to match the action in a frame with a precise sync point in the sound effect. Most often these sync points are not at the start or end of a clip, so you need to use another method for aligning the clips. With a replace edit, you can position the jog bar over the sync point of the sound effect, and then position the timeline playhead on the video frame where you want the sound effect sync point to be heard. The source clip is already located on the loudest part of the buzzing overhead plane. That point should line up with the sea plane just entering the top of the frame.

7   Zoom in to the "09 Maldives" clip in the timeline.

8 Position the playhead on the frame where the nose of the plane has just entered the frame.
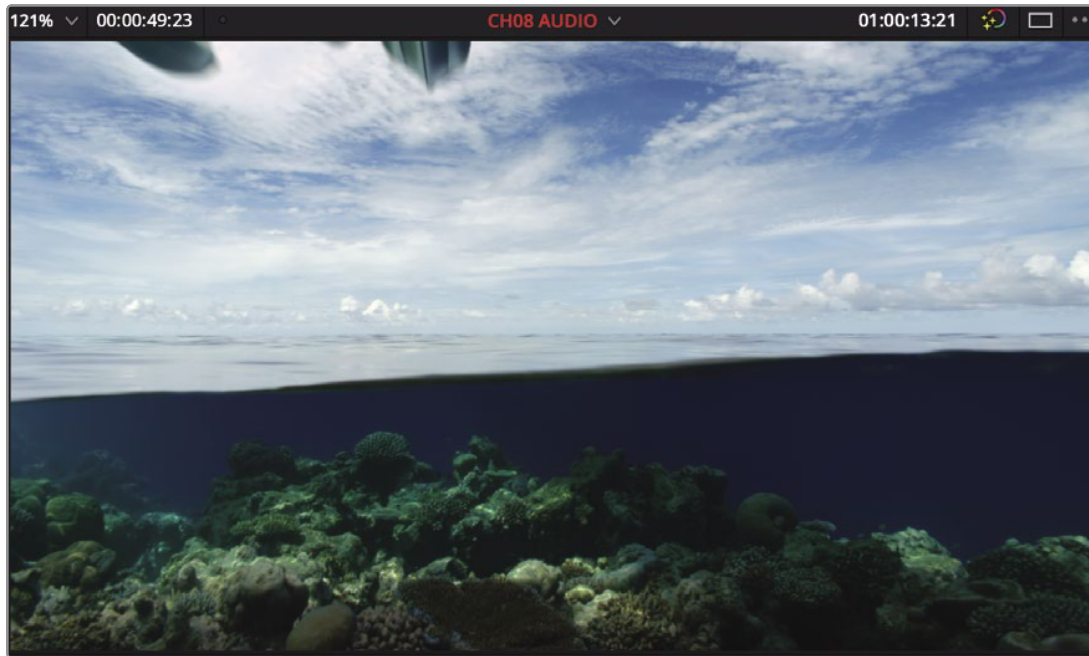

> **TIP** If the playhead is difficult to move precisely, press the N key, or click the Snapping button in the toolbar, to disable snapping. The playhead will no longer snap to the marker.

Unlike using a replace edit to replace a clip on the same track, the duration is automatically calculated by the clip on the track you are editing onto. In our case, you are editing onto audio track 3, which is empty. The replace edit will try to fill in the entire track. You can limit the replace edit duration by setting In and Out points for the duration of the "09 Maldives" clip.

9 Choose Mark > Mark Clip, or press X, to mark In and Out points for the duration of the Maldives clip.

10 In the toolbar, click the Replace button or press F11. Play over the sound effect to hear it synchronized with the picture.
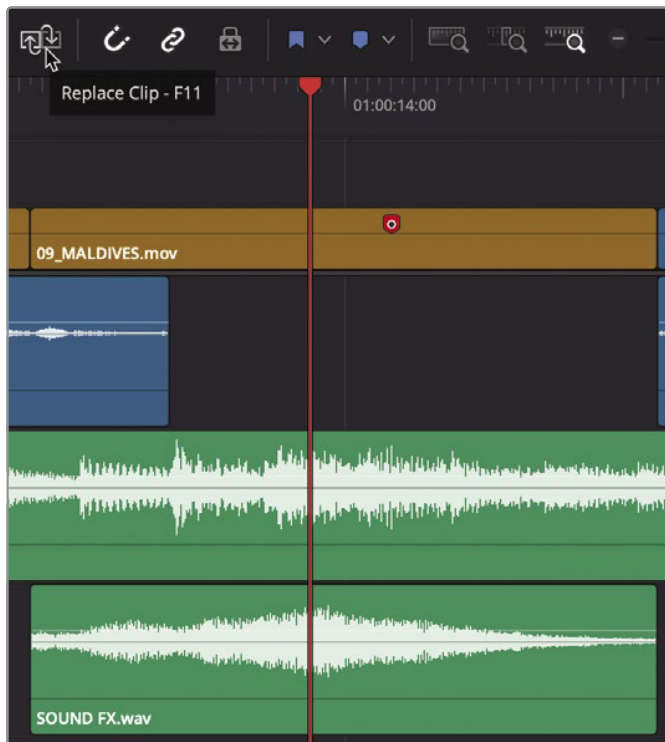

Now you have an organized track layout that places the subject's voice on Audio 1, music on Audio 2, and sound effects on Audio 3. Maintaining media organization throughout your editing stage is always important but may be even more important when editing audio because you'll often find yourself managing a dozen tracks or more.

Color Coding Tracks

You can organize your tracks even further by adding another layer of color organization. You already color coded the video clips, but you can also color code tracks in the timeline. To make it easier to parse your timeline, let's color code the music track with orange and the sound effects track with olive green.
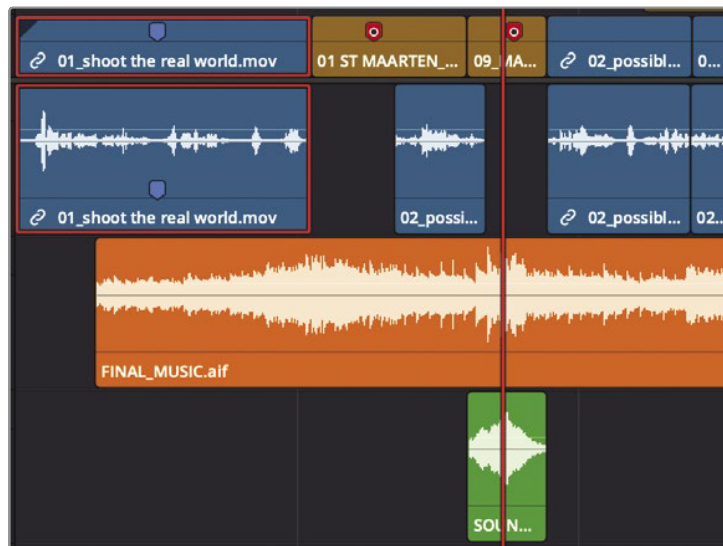
1 Press Shift-Z to see the entire timeline.

2 Right-click the Audio 2 timeline header.

3   In the contextual menu, choose Change Track Color > Orange.
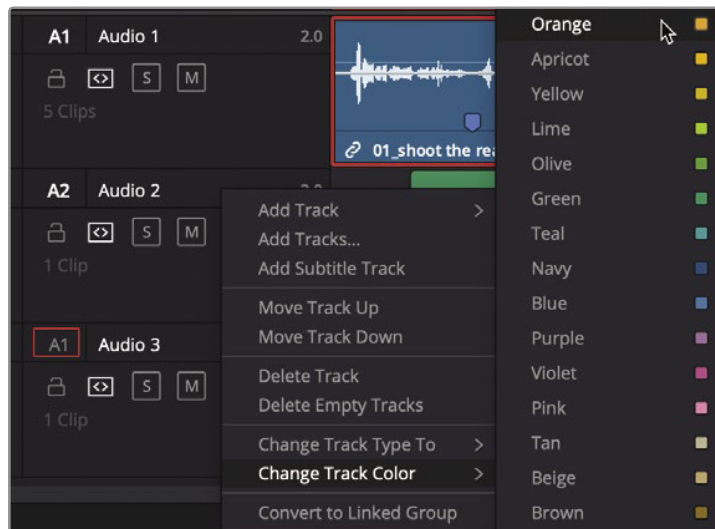
The music clip on Audio 2 changes to the orange color.

4   Right-click the Audio 3 timeline header.

5   In the contextual menu, choose Change Track Color > Olive.


The sound effect clip changes to an olive color. Any new sound effect that you edit onto that track will also assume the olive color. However, when you have assigned a color to a clip in the bin, that color will override the timeline track color.

Finding Markers Using the Edit Index

In a short timeline such as the one you have here, navigating to each marker isn't much of a challenge. On more involved projects, however, you'll need a quick way to locate one specific marker among dozens of other markers. The Edit Index is a list view of all the editing events (clips and markers) in the current timeline.

1　At the top of the DaVinci Resolve window, click the Edit Index button.
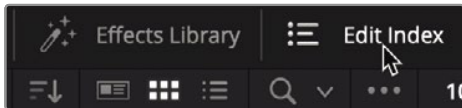
The Edit Index opens below the Media pool, showing all the editing events and columns of metadata. This is too much information to digest even in a short timeline.

2　In the upper-right corner of the Edit Index, click the Options menu.
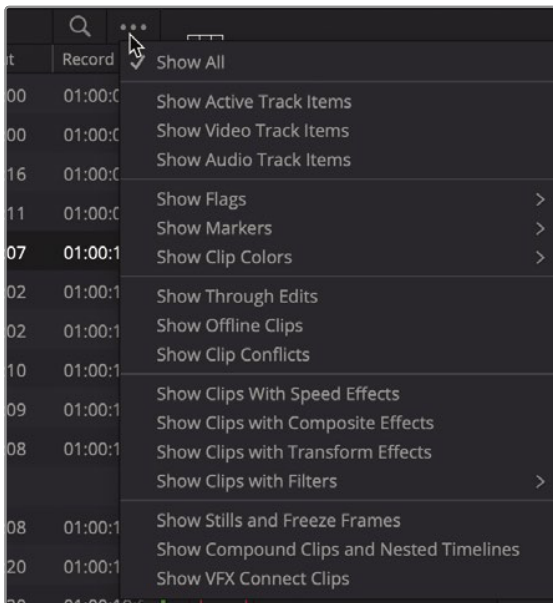
3　Choose Show Markers > Red.

The Edit Index changes to show only the red markers in the timeline, making it much easier to review the list. But you can make it even easier. As with the bin's list view, you can choose to show or hide columns of information.

4   Right-click a column header to open the menu of columns.

5   In this menu, deselect each column except for Number (#), Color, and Notes.
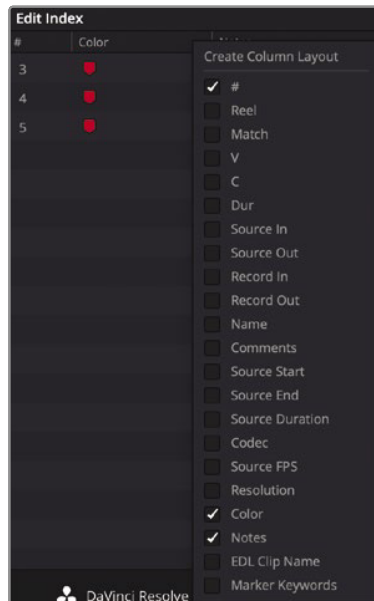
Now you can identify each marker by its color, and the note you entered.

6   Click the red marker that contains the note, "Add Roaring Jet."

The timeline jumps to the marker on the "01_ST MAARTEN" clip. This is the next clip to which you'll add sound effects. Instead of trying to find the marker in the Source viewer, DaVinci Resolve has an easier way that you'll use next.

Viewing Markers in a Bin

Markers added to source clips can be viewed in the list view of a bin. If the markers have a duration, you can use them like multiple In and Out points and edit them directly into the timeline.

1   Above the media pool, click the List View button.
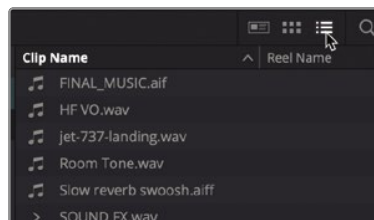
The sound effects clip has a disclosure arrow to the left of its name. Clicking this disclosure arrow will display the markers you added to the clip.

2   Click the disclosure arrow next to the "Sound FX" clip.

Each marker on the source clip is displayed under the clip's file name. If these markers have a duration, you can just drag them into the timeline, and the duration markers will be used as In and Out points for the clip.

3   From the Audio bin, drag the Jet Takeoff marker to the Audio 3 track so it aligns with the end of the "01_ST MAARTEN" clip.


One more sound effect to add.

> **TIP** Double-clicking the marker in the bin's list view will open the clip into the source viewer with the jog bar placed at the marker.

4   In the Edit Index, click the SFX - Add Prop Plane entry to relocate the timeline playhead to that marker position.

5   From the Audio bin, drag the Loud Prop Plane marker to the Audio 3 track so it aligns with the start of the "05_AERIAL ALASKA" clip.

This same prop plane sound effect could sound perfect with the "07 WATER TAKEOFF" clip a bit further down in the timeline. In Lesson 5, you learned that you can easily copy and paste clips in the timeline. However, you can also just duplicate a clip by dragging.

6 Hold the down the Option (macOS) or Alt (Windows) key and drag the last sound effect clip on Audio track 3 to the right until a copy is located under the "07 WATER TAKE OFF" clip.
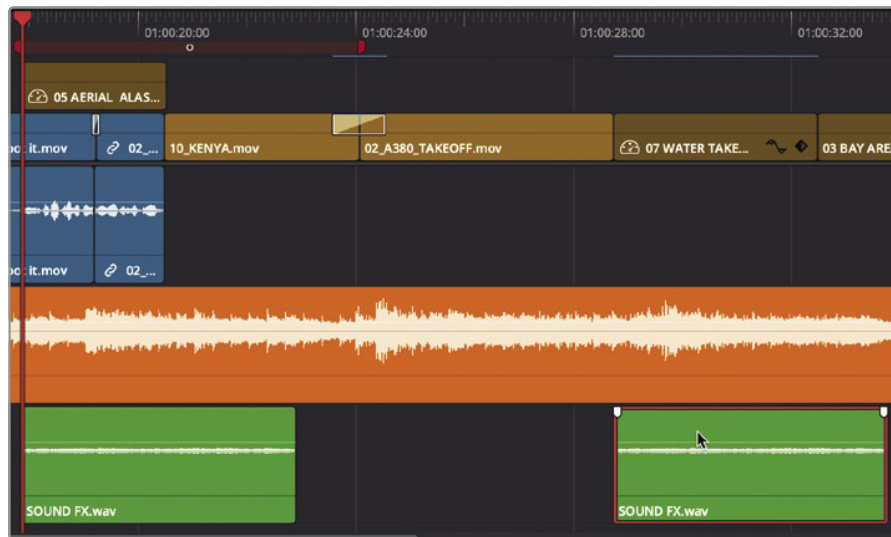
7 Move the playhead to the start of the timeline and play over your newly added sound effects.

All your audio tracks, music, narration, and sound effects are now in place.

Linking Clips

Clips that contain audio and video captured together are linked automatically in DaVinci Resolve. That behavior makes it easy to move and trim them together, so they stay in sync. However, that is not the case with your newly added sound effects. They have no link to the video they were placed with. However, you can create a sync relationship between them so that when you move one of the video clips that has a sound effect under it, they are attached and move together.

1 In the timeline, select the "01 ST MAARTEN" clip.

2 In Audio 3, Command-click (macOS) or Ctrl-click (Windows) the sound effect clip under "01 ST MAARTEN."

These two clips should stay together if you later want to move the 01 ST MAARTEN clip or even delete it. To do so, you need to link them together.

3 Right-click the selected "SOUND FX" clip, and in the pop-up menu, choose Link Clips.
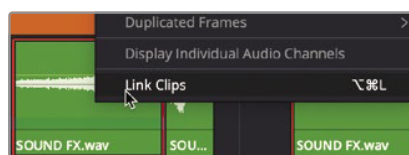
A small link icon appears in the timeline before the clip name. The icon signifies that this audio clip is linked to another clip. If you selected one in the timeline, the other would also be selected just as if they were recorded together.

4   Go through the timeline and link the remaining three sound effects with their respective video clips.

The linked selection button in the timeline toolbar works for these linked clips just as it does for linked clips that were recorded together.

Monitoring, Soloing, and Muting Audio

When you start to edit your audio, the first thing you need to do is sit back and listen. Just play the tracks to hear them in the context of the picture.

1   Press the Home key, and then press the Spacebar to play the timeline to its end.

> **TIP** Some Mac keyboards do not have Home and End keys. In their place, press Fn-Left Arrow to move the playhead to the start of the timeline and Fn-Right Arrow to move to the end.

2   Press the Home key to move the playhead back to the start of the timeline.

The most obvious issue you must address is that the audio levels for all the tracks are not well set. You can barely hear the speaker's voice.

Setting levels for audio clips starts with your primary audio track in the project. For us, that is our speaker's voice. To focus our attention on the audio levels for our speaker, we can solo his track and ignore the others for now.

3   On Audio 1, click the Solo (S) button to temporarily silence the other audio tracks.
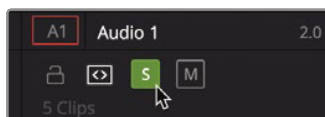
To accurately monitor the levels of your audio, you can use the audio meters located on the Mixer panel.

4   In the upper-right corner of the DaVinci Resolve interface, click the Mixer button to open the audio mixer.