

Refining Selections using Adobe Photoshop CC 2015.5 new Select and Mask workspace

- **Considerations when making a selection:**

Backgrounds should be contrasty to get clean cutouts. For example, black hair should not be on a black background when cutting out people. Therefore, when taking your photo, consider the background and make sure there is sufficient contrast between the subject and background. If you are photographing people, place a light gray background behind the subject or a white background if you move your subject away from the background. Do not use a green or blue screen behind your subject since there will be color contamination. Light your subject using a small Softbox (26"x26" positioned 45° from your subject) if you are not doing a full body composite. Then place a Stripbank rim light (14"x35") 180° opposite the Softbox giving a harder side light to your subject. When you place your subject between the two lights, it may be necessary to feather the Softbox light by rotating the light towards the camera position so you get a softer light.

Before making a selection make sure you reduces noise to get a more precise selection. Also you should duplicate the image so have a good reference below the selection image. When you make a selection don't forget to use the **Edit in Quick Mask Mode (Q)** to refine your selection. Also consider using one of the RGB Channels using the procedures described above. *Select and Mask workspace can be used to correct hairy, furry, fuzzy, and blurry areas of your selection.*

If you make a selection first before opening Select and Mask workspace, do not make a selection over transitional areas such a flyaway hair. It's important to stay away from the edges with your selection on tricky areas when background show through items such as hair.

Technique tip to increase contrast when combining two different images (composition): Open the image into Photoshop that you will be making a selection. The ACR dialog box should open and then increase the exposure so that you have as much contrast between the selection area and the background as possible. Then depress the **Shift** key and depress the **Open Image** button. This will load the image into Photoshop as a Smart Object allowing you to return later and reduce the exposure and make other adjustments. Next make a selection of the object and click on **Select and Mask** in the Options bar. Output your selection as a **Layer Mask**. You should have one Layer containing a thumbnail of the original image and a Mask. Next drop this file into your background file. Because the selection layer is a Smart Object, you can easily return to ACR and reduce the exposure and make further adjustments to blend the selection with the background.

You need to accept that not every hair strand can be selected. However, you will get acceptable selection detail when using the Select and Mask feature.

- **Select and Mask:**

The **Select and Mask** workspace replaces the **Refine Edge** dialog in earlier versions of Photoshop, offering the same functionality in a streamlined way.

Several bugs have been reported to Adobe. This new feature only works on a pixel layer (duplicate your Background Layer to get a pixel layer). A workaround is available by double clicking a layer mask to enter the **Select and Mask** space on a non-pixel layer. Adobe reports they are working on several fixes and request if you have a problem to send them your file.

This workspace works best if you have a high resolution photo.

- To invoke the workspace, click **Select and Mask** in the **Options bar** when a selection tool is enabled. Alternatively, you can press **Ctrl+Alt+R** or choose **Select>Select and Mask**. You can also click on Select and Mask in the Properties panel for a Layer Mask.



- You can set the default tool behavior, such that double-clicking a layer mask opens the Select and Mask workspace. Simply double-click a layer mask for the first time and set the behavior. Alternatively, select **Preferences>Tools>Double Click Layer Mask Launches Select and Mask Workspace**.
- **Tools (left panel):**

- **Quick Selection Tool:** Make quick selections based on color and texture similarity when you click or click-drag the area you want to select. The mark you make doesn't need to be precise, because the Quick Selection tool automatically and intuitively creates a border.

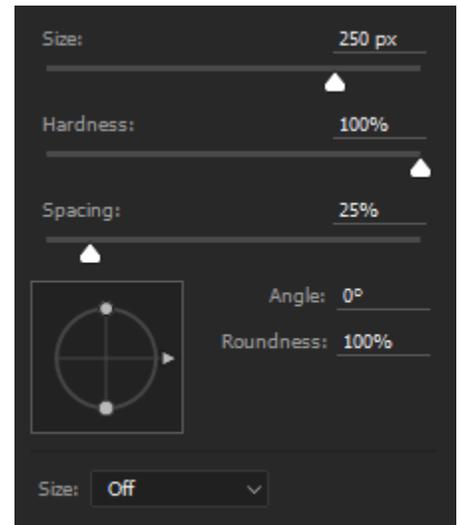


- **Refine Edge Brush Tool:** Precisely adjust the border area in which edge refinement occurs. For example, brush over soft areas such as hair or fur to add fine details to the selection. To change the brush size, press the bracket keys. *Generally you only need to click on the Refine Edge Brush Tool* to paint over edges of your selection in order to fine-tune your selection. Magnify closer to the selection and paint over the areas that needs to be better defined. If you depress the Alt key and click over an area, it will sample the color under the cursor and remove that color from the selection.

- **Brush Tool:** Begin with making a rough selection using the Quick Selection tool (or another selection tool) and then refine it using the Refine Edge Brush tool. Now, use the Brush tool to finalize or clean up details.

Use the Brush tool to fine-tune selections in two simple ways: paint over the area you want to select in the Add mode (brush default), or paint over areas you don't want to select in the Subtract mode (hold down the Alt key). If you click on the minus icon on the options bar, you must depress and hold down the Shift key to return to the plus or add mode.

With the Brush tool selected and over the on-screen preview, you can right-click and the popup dialog will allow you to change the Brush size, hardness, and spacing.



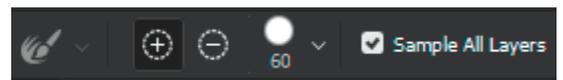
- **Lasso Tool:** Draw freehand selection borders. Using this tool, you can make precise selections.

- **Hand Tool:** Navigate around the photo. This photo works just like the Hand tool in classic Photoshop

- **Zoom Tool:** Magnify and navigate around the photo; works just like the Zoom tool in classic Photoshop. You can also hold down the Z key to bring up the Zoom Tool and continue to click to zoom in. To zoom out hold down the **Z+Alt** keys. To return to full screen, depress the **Ctrl+0** keys.

▪ **Options bar:**

- **Add or Subtract:** Add or subtract from the refinement area. Adjust the brush size if necessary.



- **Sample All Layers:** Creates a selection based on all layers instead of just the currently selected layer

▪ **Refine the selection:** You can refine your selection in the Properties panel of the Select and Mask workspace. Adjust the following settings:

- **View Mode settings:** From the View pop-up menu, choose one of the following view modes for your selection:
 - **Onion Skin (O):** Visualizes the selection as an animation-style onion skin scheme. This view is generally the best of all the views but it is important to lower the Transparency to 20-30%. If the transparency is 100%, the background will be pure white; however, lowering the transparency shows you where to paint over along the edges.
 - **Marching Ants (M):** Visualizes the selection borders as marching ants. Marching Ants view mode is not generally useful in seeing your selection.
 - **Overlay (V):** Visualizes the selection as a transparent color overlay. Unselected areas are displayed in that color. The default color is red.

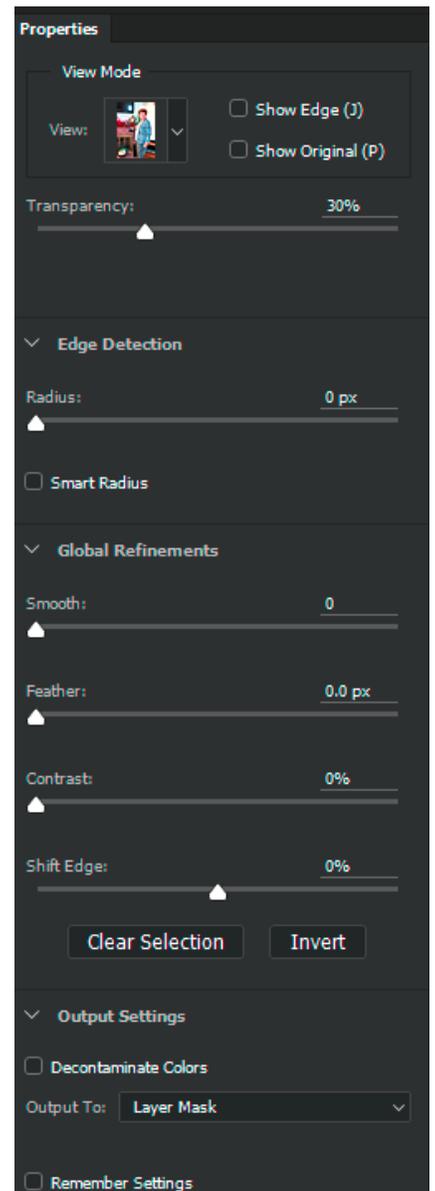
- *On Black (A)*: Places the selection over a black background
 - *On White (T)*: Places the selection over a white background
 - **Black & White (K)**: Visualizes the selection as a black and white mask. **To see any detail that might have been missed, switch the View to Black and White.** The selected areas will be white and if you see some gray areas that you don't want selected then paint them out or **raise the Contrast** to clean up the edges.
 - *On Layers (Y)*: Surrounds the selection with areas of transparency
- Note:** Press **F** key to cycle through the modes and **X** key to temporarily disable all modes.

- **Show Edge:** Shows the area of refinement.
- **Show Original:** Shows the original selection.
- **Transparency/Opacity:** Sets transparency/opacity for the View Mode. This setting applies beyond the Select and Mask workspace to the Overlay view mode in classic Photoshop.
- **Edge Detection settings:** You can see the radius in the document window by checking **Show Radius** box and then increasing the Radius slider. However, if some areas are outside the Smart Radius area, increase the Radius and then paint over the selection area. Usually a value of 5 to 15 pixels works well; however, each photo is different and you will need to experiment with the Radius pixel amount. This allows you to selectively expand your edge detection area, bringing in more details from the subject as Photoshop learns what is and isn't background. Think of the Radius slider as painting around the entire selection at once. If you increase the size of the Radius too much, unwanted background areas may start blending into the selection, and you can even lose areas that you initially selected and wanted to keep.

- **Radius.** Determines the size of the selection border in which edge refinement occurs. Use a small radius for sharp edges, and a large one for softer edges.
- **Smart Radius.** Allows for a variable width refinement area around the edge of your selection. Among other use cases, this option is helpful if your selection is a portrait that includes both hair and shoulders. In such portraits, the hair might require a larger refinement area than the shoulders, where the edge is more consistent. Once you've enabled Smart Radius, you'll usually want to re-adjust the Radius size with the main slider to see if you can get even better results. Normally do not exceed a radius of 20-pixels, otherwise you will get undesirable results.

Important: Try turning **Smart Radius** on and off to see if this option helps.

- **Global Refinement settings:** Generally you will not need to use these adjustments sliders with the exception of Shift Edge.
 - **Smooth:** Reduces irregular areas (“hills and valleys”) in the selection border to create a smoother outline. Normally Smooth Edge doesn't do much. Be aware that using too high a Smooth value can “clip” small details along the edge of the selection.
 - **Feather:** Blurs the transition between the selection and the surrounding pixels.
 - **Contrast:** When increased, soft-edged transitions along the selection border become more abrupt. Typically, the Smart Radius option and refinement tools are more effective. Usually you will not use any contrast adjustment. It generally ruins the edge when overdone, so keep it below 10%.



However, if you want a sharp defined edge then increase the Contrast slider about half way and see what happens.

- **Shift Edge:** Moves soft-edged borders inward with negative values or outward with positive ones. Shifting these borders inward can help remove unwanted background colors from selection edges.
- **Output Settings**
 - **Decontaminate Colors:** Replaces color fringes with the color of fully selected pixels nearby. The strength of color replacement is proportionate to the softness of selection edges. If you see a lot of fringing around hair, which is caused by remaining color from the original background, then use **Decontaminate Colors** option.
***Important:** Because this option changes pixel color, it requires output to a **New Layer** or document. Retain the original layer so you can revert to it if needed.*
 - **Output To:** Determines whether the refined selection becomes a selection or mask on the current layer, or produces a new layer or document. Normally will want to output your cutout to a **New Layer** or **New Layer with Mask**.

Reset: Click  to reset the Workspace and revert the settings to the original state in which you entered the Select and Mask workspace. This option also reverts to the original selections/masks applied to the image when you entered the Select and Mask workspace.

Remember Settings: Select *Remember Settings* to save the settings for use with future images. The settings are applied afresh to all future images, including the current image if it is reopened in the Select and Mask workspace.

- **Shortcut keys:**

- Depress the 'P' key to see a before & after preview.
- Depress the 'F' key to cycle through the view modes.

- **Recommended steps to refine your selection using Select and Mask workspace.**

1. Either start with a selection, or open the Select and Mask workspace. Choose the Onionskin View mode and choose a selection tool from the Tool bar.
2. If there are any areas of your image not selected that should be, use the **Quick Selection tool** to paint them in quickly.
3. Select the **Refine Edge Brush** and start by clicking on the background area outside your selection to define the hue you want to mask out, then drag the brush into your edges/hair. The more you refine the selection, the smarter it gets and the whole edge begins to look better.
4. Slide your **Transparency slider** up to 100% so you can view the cut out on its own and view any additional areas that need fixing.
5. Turn on **Smart Radius** in Edge Detection section. Select a radius of **5-px** since this will help bring in some of the finer details.
6. In the Output Settings, check the **Decontaminate Colors** box to remove any remaining hue around the edges of your selection.
7. Use the **Global Refinements sliders** to fine tune your selection. The one most likely slider to use is the **Shift Edge** to reduce the selection which will remove unwanted areas around the edges.
8. Select the **Black & White view** and use the **Brush tool** to mask in or out (depress **Alt** key) any remaining sections especially near the edges of the cutout.
9. When you're happy with your selection, click on the **Output** dropdown menu and choose your output method. In most cases for a non-destructive workflow, choose **New Layer with Layer Mask**.

10. Check the **Remember Settings box** if you plan on doing multiple cutouts of the same type of image and press **OK** to confirm you are finished.

- **Recommended steps after you output your selection to a new Layer:**

- **Before refining your mask, make a copy of your selection in order to revert to the original selection:**

- **Ctrl-click** on the mask to bring up the marching ants.
- Select **Channels** and make a copy of your mask (click on '**Save selection as channel**' icon at bottom of panel).

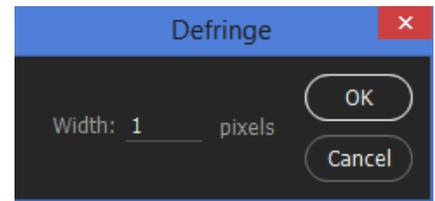
- **Defringe halo/white around edges:**

- **First method:**

- If there are extra pixels around a selection, creating a halo effect, defringe the selection.
- Copy the selection onto a new layer. If you already made a Mask, the **Ctrl-click** on the mask to bring up the selection on the image (marching ants) and then depress Ctrl+J. This will place the selection onto a new layer with transparent areas around the selection.

You can also right-click the mask and select '**Apply Layer Mask**' which will apply the selection on a new layer with a transparent background.

- Before attempting any fix, zoom in on the fringed edge to readily see the problem and how the solution is working. Determine the width of the fringe in pixels.
- Choose **Layer>Matting>Defringe**. Then select **1** pixel for the width or the number of pixels you determined by zooming in close to the edge. If that doesn't work, then undo (**Ctrl+Z**) and try 2 or 3 pixel Defringe.
- To see a before/after view, choose undo (**Edit>Undo** or **Ctrl+Z**) and then redo the Defringe adjustment (**Edit>Redo**; or **Ctrl+Z**).
- If the Defringe tool does not remove the pixels then choose **Layer>Matting/Color Decontaminate**. This option changes the color of the stray pixels to match the color of a surrounding object.



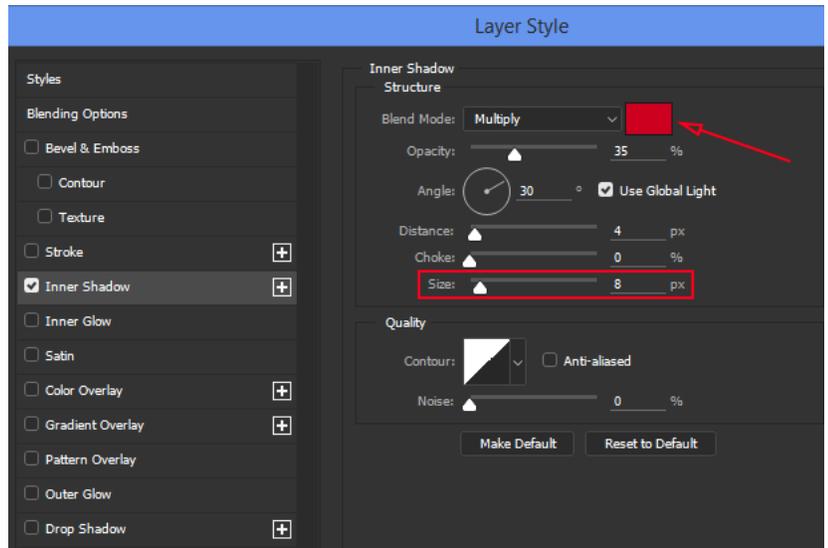
- **Second method:** If your cutout has a primarily white or black background, try going to **Layer>Matting>Remove White/Black Matte**. If the background was primarily white this will remove the white fringe around the cutout. Sometimes you may see some faint black smudges around the cutout which can be removed by using the **Eraser tool** (background around cutout is transparent).

- **Third method:**

- Duplicate the Layer and Zoom Into the fringe area.
- Apply a Gaussian Blur and increase the radius until the fringing color is gone. Use the minimum amount of blur to remove the fringe color.
- Set the Blending Mode of the Blurred Layer to **Color**.
- Add a Black Mask and paint with white over the fringe areas.

○ **Fourth method:**

- Click the **fx** button at the bottom of the Layers panel and in the popup select **Inner Shadow**.
- Click on the **Set color of the shadow** swatch box (same line a Blend Mode indicated by red arrow) and with the Color Picker eyedropper select the dark hair color of the cutout.
- Then move the **Size** slider to remove the white fringe.



- Try **duplicating (Ctrl+J)** the cutout layer. For hair it may build up and enhance some hair areas. However, you may not get satisfactory results in other areas when duplicating. Add a Layer Mask and paint out those areas.
- **Add a solid color layer:** It is best to see your work against a solid background color (teal/green/magenta color). Click on **Create New Fill or Adjustment Layer** icon (half circle) and select **Solid Color**. The Color Picker will pop up and select a background color. Click on the new Color Fill layer and drag it below the Mask Layer.