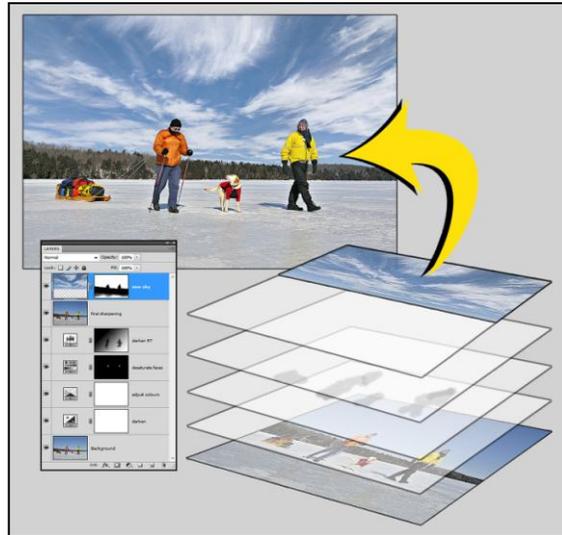


Layers, Masks and Magic: Photoshop's Greatest Tools

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Layers = set of "sheets", each containing a part of the image or an editorial instruction about the image that, when put together, create a final "perfect" composite image.



Why Layers are Useful

- Non-destructive editing of images that keeps original pixels intact.
- Layers can be edited independently for maximum control in tweaking all or part of an image.
- Images can be re-opened and layers fine-tuned at a later date (ie. if your tastes change, or you learn a new editing technique, or you need the image for a different purpose).

The Downside to Layers

- File size significantly larger, depending on # of layers and file format.
Example: a 12MP camera an typical RAW file = 13MB → converted to 8-bit TIFF/PSD = 32 MB (16-bit = 64MB) → layered TIFF/PSD = 100-400 MB! (compared with JPEG = ~10MB!)
- File format restricted to PSD or TIFF (JPEG does not support layers).

Types of Layers

1. **Image layers** = layers that contain pixels:
 - The original photograph = background layer.
 - Duplicate background layer = copy of the image (used to clone out spots, noise reduction etc.)
 - Copy & Paste layers = content copied from one image and pasted into another image.
 - Text layers = captions, image title.
 - Graphics layers = shapes (arrows, lines, boxes etc.)
2. **Adjustment layers** = layers that contain instructions to edit some aspect of the image layer beneath:
 - Tonal adjustments using Levels, Curves, Brightness/Contrast, Exposure.
 - Colour adjustments using Levels, Curves, Hue/Saturation, Selective Colour, Colour Balance.
 - Each adjustment is done using a separate layer.

Working with Layers

Where you find Layers in Photoshop = in the Layers palette at the bottom-right corner of the workspace (by default), or from the Main Menu by selecting Window > Layers.

Layer Visibility

- Layer visibility is from the top-down, so topmost image layers will obscure underlying layers.
- Click “Eye-con” beside layer to make layer visible/invisible.
- Alt-click “Eye-con” beside layer to make all other layers invisible.
- Alt-click background layer “Eye-con” to see before-after image.
- Change Layer Opacity: select layer, click Opacity button at top of layers palette and move slider. This will tone down the effect of an adjustment layer, or make an image layer semi-transparent.



Manipulating Layers

- **Select Layer(s):** single-click on a layer to select, Shift-click to select a number of adjacent layers, Ctrl-click to select several non-contiguous layers.
- **Delete Layer:** select layer and drag to garbage pail icon on layers palette.
- **Create Duplicate Layer:** right-click on layer > Duplicate Layer (shortcut = Ctrl-J). Recommend using duplicate layers for all pixel-altering corrections (ie. cloning out spots, noise reduction, sharpening, lens distortion corrections) so that the original (Background) image will not be altered.
- **Add New Layer:** click “New Layer” icon in the layers palette.
- **Move Layer:** click and drag up/down the layers palette.
- **Ctrl + Alt + Shift + E** on topmost layer to create a composite layer that can be used for final sharpening of image (note: this will obscure all underlying layers, so if any future edits are made to those layers, this composite layer must be deleted and re-created when the edits are finished).
- **Merge Layers:** select layers to merge, then right-click > Merge Layers.
- **Flatten Image** (ie. merge all layers): right-click on any layer > Flatten Image.
- **Name Layer:** double-click on the layer title and type new name (it’s a good idea to assign a name according to the layer’s function so you can find it easily if you want to edit it later).



Elements 6

If Layers palette doesn't appear in bottom-right area of screen, get it from Window > Layers

- “Eye-con” – click to make layer visible/invisible (Alt-Click to make all other layers invisible)
- Create new adjustment layer
- Add layer mask (not available in Elements)
- Drag layer to garbage pail to delete

CS3

CS4

Adjustments & Masks Panels new to CS4 = quick access to adjustments and selections

Layers Palette default location HERE

Annotations for Elements 6:

- Layer opacity slider
- Image layer
- Adjustment layers
- Layer mask
- Active layer is highlighted
- Background layer = original image (locked)

Annotation for CS3:

- Layer thumbnail or adjustment type

Layer-Mask = a grey-scale image, linked to a layer, that reveals the layer wherever the mask is white (ie. transparent), conceals the layer wherever the mask is black (ie. opaque), and partially reveals/conceals the layer wherever the mask is grey (translucent) – the lighter the grey, the more transparent the mask and the more visible the layer effect. 😊

Why Layer Masks are Useful for Photographers:

- Masks allow you to tweak your photographs (tonal/colour adjustments), applying the effects *selectively* to the image, with lots of intensity in some areas, none in other areas, and graduated degrees of intensity where only a partial effect is needed.
- The mask is editable, so that you can go back later and make changes, both to the adjustment layer itself (ie. make it lighter/darker, change the colours) *and* to the mask (ie. increase the transparency or opacity of areas of the mask to alter the intensity of the effect in parts of the image).

Tools of the Trade

Selection, Brush and Gradient tools are used to create and fine-tune the edges and intensities of a mask, so you need to know how to work with them before tackling masks. Which tool you use depends on the size of the area, intensity of the effect and precision of the boundary. Selection tools are good for precise boundaries, the Gradient tool is good for a gradual transition, and the Brush gives maximum control. All three tools can be used on the same mask.

1. **Selection Tools** (keyboard shortcuts = “M”, “L”, “W”)

- Marquee, lasso and wands in toolbox to isolate specific areas of an image.
- Other selection tools (ie. Colour Range in CS3/CS4) and refinements (reselect, inverse, feather edge, modify size, load selection) under “Select” in the menu bar. CS4 has made these selection tools/refinements readily accessible – just click the Mask tab under the Adjustments panel.
- Useful keyboard shortcuts: Ctrl-A = Select All, Ctrl-D = Deselect, Ctrl-Shift-I = Inverse.
- Add to a selection = press Shift key while selecting another area.
- Subtract from a selection = press Alt key while selecting area.

2. **Brush** (keyboard shortcut = “B”)

- Adjust brush size using bracket key shortcuts: [= smaller,] = bigger
- Adjust brush edge softness with Hardness slider in Options bar (~ 50% is good).
- Adjust brush opacity and flow in Options bar (~ 50% flow works well, opacity will range widely between 0% and 100% depending on desired intensity).
- Brush colour for masks = set foreground/background to black/white in Toolbox, toggle between them with curved arrow (keyboard shortcut = “X”).

3. **Gradient Tool** (keyboard shortcut = “G”)

- Set foreground/background colours to white/black to apply gradient from area of most effect to area of least effect (or set to black/white to apply from least to most effect).

How to Create an Adjustment Layer-Mask

- When you create an adjustment layer, it comes automatically with a white mask (ie. the full adjustment effect is visible over the entire image).
- To change a mask from white to black (or vice versa): select the mask, then Edit > Fill (Layer) > Contents and choose black (or white) in the “Use” box. In CS4 you can simply select “Invert” from the Mask panel. (In CS3/CS4 the Fill Box can be accessed by shortcut = Shift-F5)
- Selection tools can be used *before* creating an adjustment layer to isolate specific area(s) of the image, so that when you create the layer, the selected areas will show up as white on the mask (adjustment effect visible) and unselected areas will be black (no adjustment).
- The Brush and Gradient tools are used *after* you create an adjustment layer to refine the mask, painting IN the effect with a white brush or painting OUT the effect with a black brush. You can also use Selection tools in conjunction with the Brush in order to clearly define the edge where you are working.

Useful Shortcuts to See the Effects of Layer-Masks

- **Click the layer “Eye-con”** to see the overall adjustment effect, including the localized effect of the mask (toggles off/on).
- **Shift-click mask** = turns the mask off, so you can see the adjustment fully applied to the whole layer, as if the mask were entirely white (toggles off/on).
- **Alt-click mask** = hides the layer to make *only* the mask visible (toggles off/on), which is useful for fine-tuning the mask.
- **Ctrl-click mask** = turns the mask into a selection, which is useful if more adjustments are needed on a different layer.



How to Create an Image Layer-Mask [Note: this feature is *not* available in Elements]

Using a mask on an image layer allows you to selectively show or hide the pixels on that layer so some pixels are visible and others are invisible. Hiding the pixels is non-destructive (vs the permanent deletion with the eraser tool, for instance), so they can be brought back again if needed. It is commonly used when copying part of an image from another photograph (ie. a new sky, an extra person or object).

- First select the image layer you want to work on, then click the “Add Layer Mask” icon at the bottom of the layers palette to create a mask on the layer. 
- Use the black/white Brush to adjust the mask, painting black where you want to hide pixels, and white where you want to reveal pixels (shades of grey will make the pixels translucent, which is useful for blending this layer with a layer beneath).
- **Caution:** when working with masks on image layers, make sure that the *mask* (not the layer thumbnail) is selected before starting, or you will get a nasty surprise when you use your paintbrush! A highlight appears around the mask box when selected.

Example: Siberian Tiger Direct

The accompanying CD contains three images: *Siberian Tiger* (Image #1), *Tiger Direct business card* (Image #2) and a tweaked/combined image called *Siberian Tiger Direct* (layered PSD Image #3). Work through the following steps (saving regularly as you go!) to hone your skill with Layers & Masks. Compare your image with the completed version (#3) to assess your progress. And remember – there are many ways to accomplish the same effect on each layer, so use whichever ones work best for you!



- 1) Open Image #1.
 - 2) Create a duplicate background layer and clone out spots.
 - 3) Create a Levels (or Curves or Exposure or Brightness/Contrast) adjustment layer to adjust brightness.
 - 4) Create another Levels (or whatever) adjustment layer and apply Gradient tool to the mask to brighten the upper-left corner.
 - 6) Create a Hue/Saturation (or Vibrance) adjustment layer to punch up overall colour.
 - 7) Create an additional Hue/Saturation adjustment layer to increase red saturation in mouth using Brush tool on the mask to isolate the effect.
 - 6) Create a compilation layer and apply final sharpening to image (I used Unsharp Mask with amount = 80 and radius = 1.0).
- NOTE: ELEMENTS USERS WILL HAVE TO STOP HERE (or use eraser tool instead of mask & brush).
- 7) Open Image #2, roughly select area around hand/card (ie. use the polygonal lasso tool).
 - 8) Copy and Paste this area into Image #1 and move/resize to position in bottom-left corner.
 - 9) Create Layer-Mask on the pasted layer.
 - 10) Use Selection and Brush tools to mask out unwanted pixels around the hand/card.

Good Luck and Have Fun with Layers & Masks!