PHOTOSHOP II WORKSHOP

This workshop will take you to the next level with Photoshop CS4 and show you how to use curves, adjustment layers, masks, channels, create actions, convert images so they simulate infrared, hand colour BW photos, combine images to expand dynamic range, create impressionistic images and more. This workshop is designed as a follow up to Photoshop I workshop.

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Suitable for intermediate to advanced level photographers and Photoshop users. The workshop includes a DVD with tutorial images and step by step video clips for self learning.

Note: These tutorials and notes may not be used in any other workshop or training program without the explicit permission of Robert Berdan. If you are an instructor or institution and wish to use these tutorials please contact rberdan@scienceandart.org. This workshop covers Adobe Photoshop CS4 and includes notes, images and a CD with movies showing you how to perform each of the tutorials. Robert offers a Photoshop I and Photoshop II Workshop on a regular basis in his studio. Each workshop is $249 you can register at www.canadainnaturephotographer.com.

On the associated DVD within the folder called QTmovies is a series of short Quicktime movies that will show you each tutorial described in the text. You will need Quicktime 7 player installed on your computer to view these movies. The player is available to download for free from Apple (www.apple.com/quicktime/download/). Where you see the Quicktime movie logo in the text there is an associated movie clip (QuickTime logo is copyright of Apple).

1.1 Introduction

This workshop consists of 25 lessons with step by step tutorials followed by a couple of hours where students can practice and apply some of the techniques to their own images.

Prerequisite: This class is designed for experienced Photoshop users. It is recommended that students have taken a Photoshop I workshop that covers monitor calibration, Photoshop configuration and basic workflow procedures or that they have had previous experience with the program and know where the main tools and palettes are located.

Objective: To provide students with a more in depth working knowledge of how to use Photoshop to manipulate and enhance their photos.

The tutorials are designed for use with Adobe Photoshop CS4 (regular or extended versions) though many of the tutorials can also be accomplished with earlier versions of Photoshop.

Photoshop is expensive and there is lots to learn - in part this is because it is the best photo-manipulation program available at this moment in time. There are many alternatives to Photoshop that are much cheaper including Photoshop Elements, Adobe Lightroom, Paintshop Pro, and even a free program called GIMP that will accomplish some of the things described in this workshop. However if you want the maximum control over the final appearance of your photographs then Photoshop has no equal today.

In the past some photographers built their own darkrooms to create custom prints - this was also expensive and required years of dedication to become skillful at. Some photographers choose to process their images in a darkroom because they knew they could produce prints that looked significantly better then those made at photo print shops and they could also interpret and modify their images.

> *The negative is comparable to the composer's score and the print to its performance. Each performance differs in subtle ways.*
>
> *Ansel Adams*

I had my own darkroom equipment for over 30 years and I was reluctant to sell my equipment because I knew that I was also throwing away 30 years of darkroom experience. I admit working in a darkroom can be fun and there is lots of science and art involved in mixing the chemicals and processing the prints, however the chemicals were also irritating to the eyes, nose and skin not to mention harmful to the environment and I no longer miss it, but I have great respect for those that continue to carry on this craft and tradition.

When digital images began to rival film in terms of resolution and quality and Epson put out the first archival quality inkjet printer in 2000 - Photoshop became even more valuable. Working with Photoshop and an inkjet printer I found I could produce 10-20x more prints then I could in the darkroom in the same period of time. Also I could work in room light with no harmful chemicals. More importantly, I could experiment with my images and view changes instantly on the computer. If I needed multiple prints I could send the printer a command to make 10 images and all of them were near identical. Some darkroom perfectionists might argue that they can produce better blacks or D-max in prints processed the old fashioned way and this may be true, but I have found my prints produced digitally are sharper, have better tonal range and better colour then those produced by printing in a darkroom. I will never go back to working in a darkroom any more then I will return to shooting on film - there are just too many advantages to working with digital files financially and in producing the types of images I see in my "minds eye". Everything a photographer does from choosing a lens, type of camera, use of filters and post processing affects the final image. Some photographers are happy with what they get in the camera, slide or film and that's Ok - but not for me. If you want to have the maximum control over the photographic process then shooting with a quality digital camera and using a program like Adobe Photoshop is the best way to achieve this today.

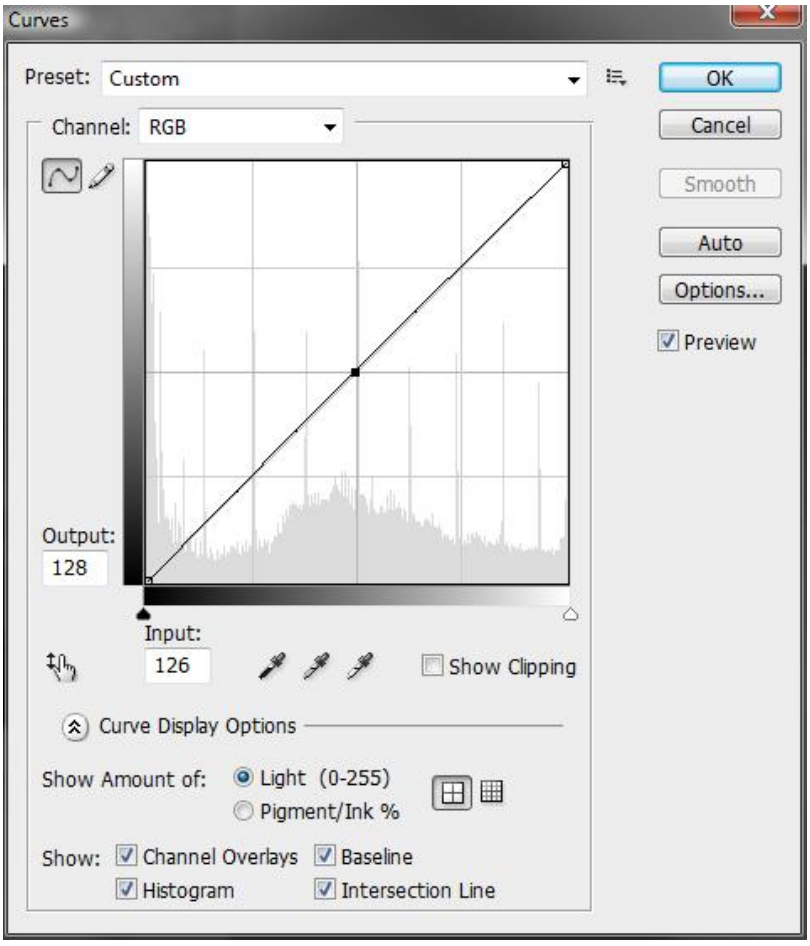
2.0 Photoshop Lessons

2.1 Introduction to Curves

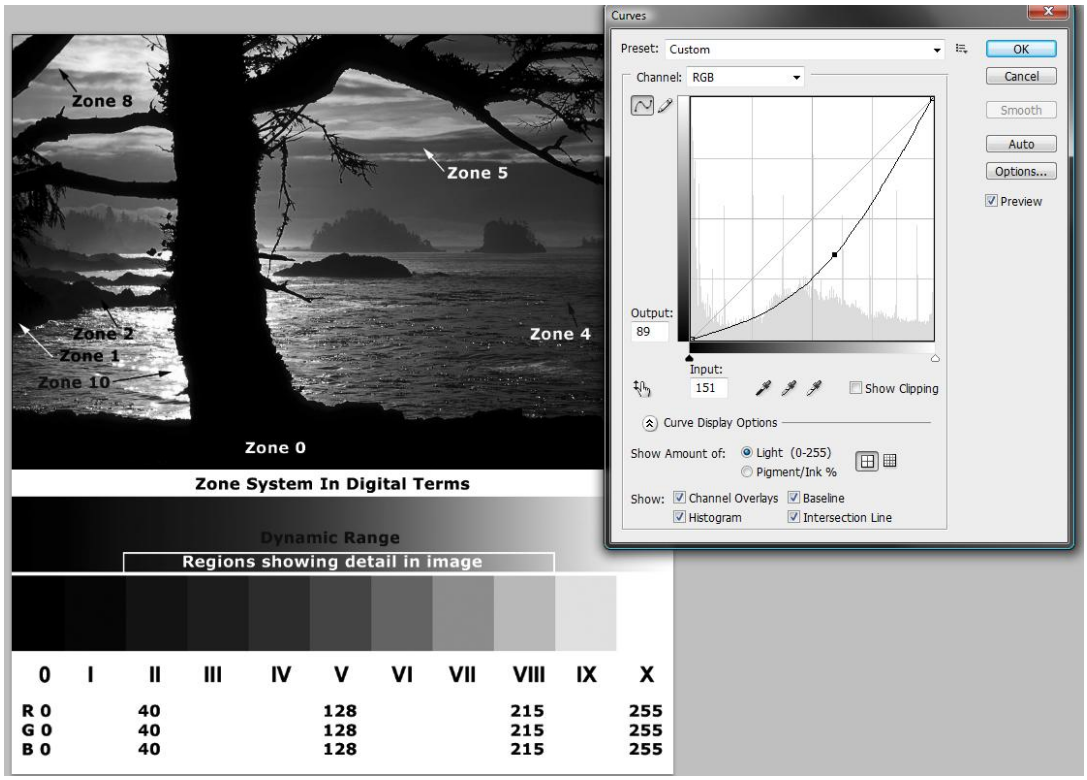
In my normal workflow one of the things I always check on is the image levels or histogram as it shows me the distribution of tones in an image. Often an image can be improved by manipulating the histogram so it includes a true black and white. Another way to modify the tones in an image is to use the curves tool which is often used together with the levels histogram to improve tones and modify contrast in an image. The curves tool offers finer control and is most frequently used to either enhance image contrast or reduce it. In the Photohop I workshop we also used the curves tool to colour correct an image by using RGB numbers and balancing a gray area.

1. In this tutorial we will first examine how to manipulate contrast in an image. To do this we will open a BW image zonesystem_image.jpg that includes a black to white gradient and 10 levels of gray which will make it easier to see what is happening to the image tones as we change the shape of the curves. Start Photoshop go to the folder called curves and open the file zonesytem_image.jpg.

2. Select Image >Adjustments>curves



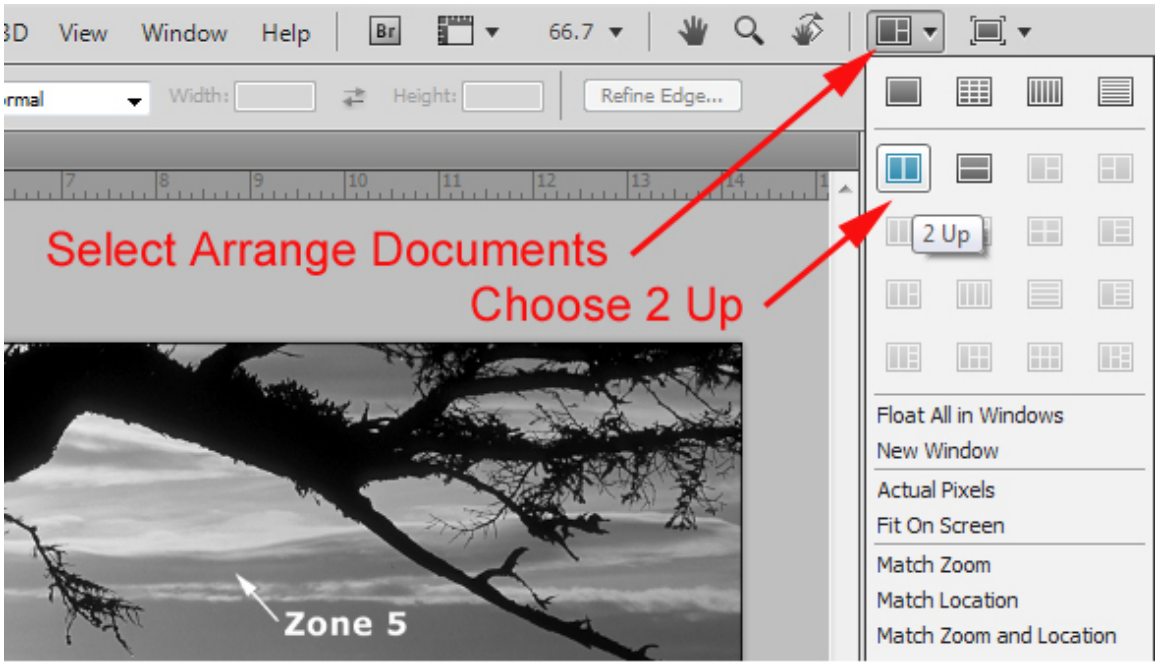
3. You should see a pop up box that looks like the picture above, click your mouse in the middle to create a single square point along the straight line. The straight line indicates that the input data is equal to the output data. We can change this relationship by pulling the middle point up or down and thereby change the tones and contrast in an image. Select the center point and drag it up note how the tones change in the photo, then drag the curve down and note how the tones change.



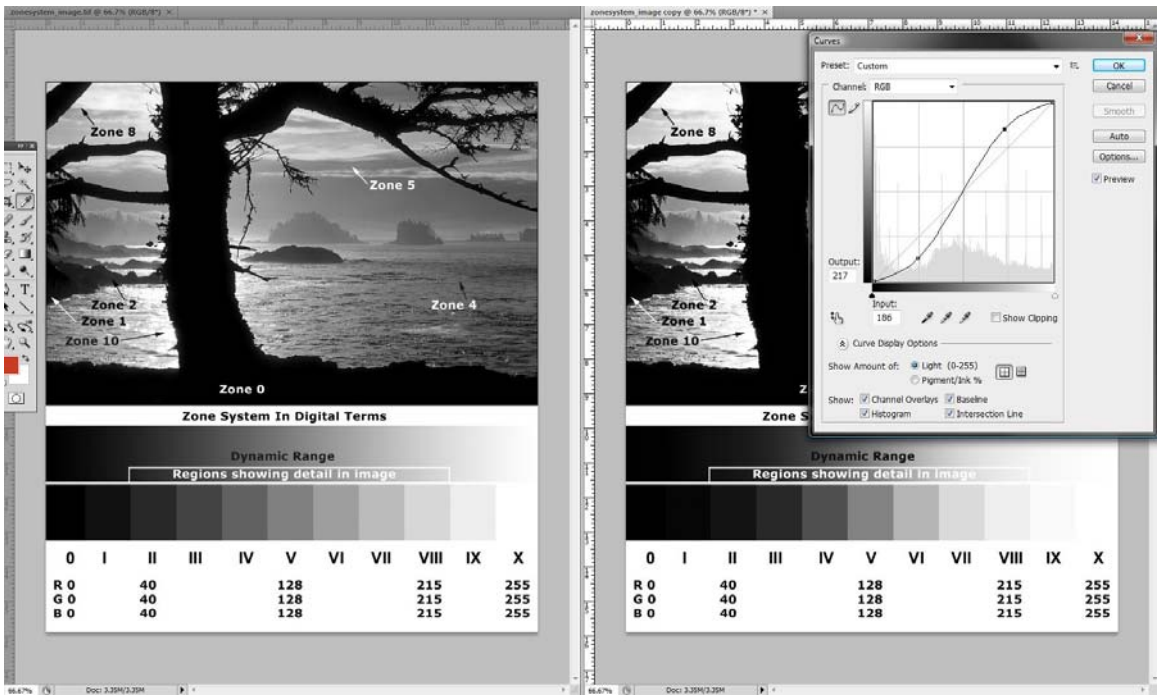
Pulling the curve down tends to darken the image and you will see the tones between 0 and V get much darker i.e. your shadow tones, the highlights or light tones experience less change.

Pulling the curve straight up tends to lighten the highlight tones and also cause greater separation in the dark tones. These are simple changes that can improve some of your images.

4. Most of the time you won't simply lift or pull the curve down, but rather you will apply two points to create either an S shaped curve to enhance the middle tones or an inverted S shape curve to reduce the overall contrast in an image. If the Curves window is still open - close it. Lets duplicate the image so we can see a before and after version. Select Image>duplicate. Then to see both images at the same time Select Arrange Documents button at the top of Photoshop in the Application Bar as shown below and select 2 Up.

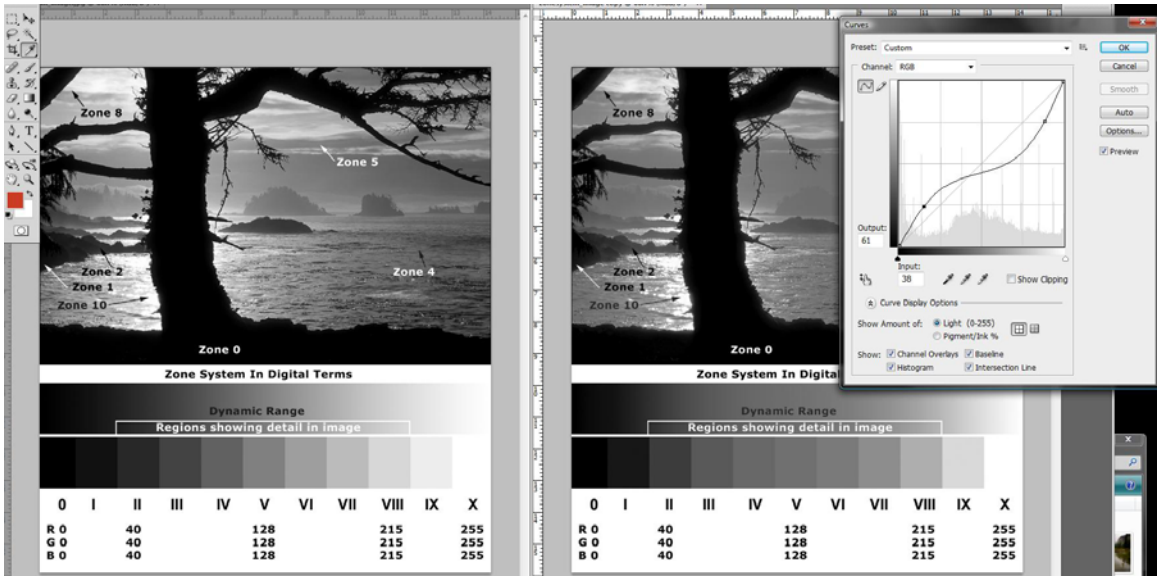


5. Select Image> Adjustments >curves and place two points on the curve as shown below. The first point should be on Input/Output about 35 and another one at about 210. Then drag the top point up and the bottom point down to create a S shaped curve like that below on the right side of the picture.



Note how there is an increase in contrast in the middle tones. The S shaped curve is frequently used to increase contrast in the middle tones while darkening the black tones and lightening the highlight tones. You might use this type of curve on an image with very low contrast e.g. a photo taken in fog. Choose> Cancel.

6. Choose Image>Adjustments>Curves and this time add two points as before one near the bottom of the curve and one near the top of the curve. Pull the bottom point up and the top point down to create an inverted "S" shape curve. This will reduce the contrast in an image. For instance you might use this type of curve on an image that was taken in very bright sunlight or indoors with a combination of indoor and outdoor lighting.

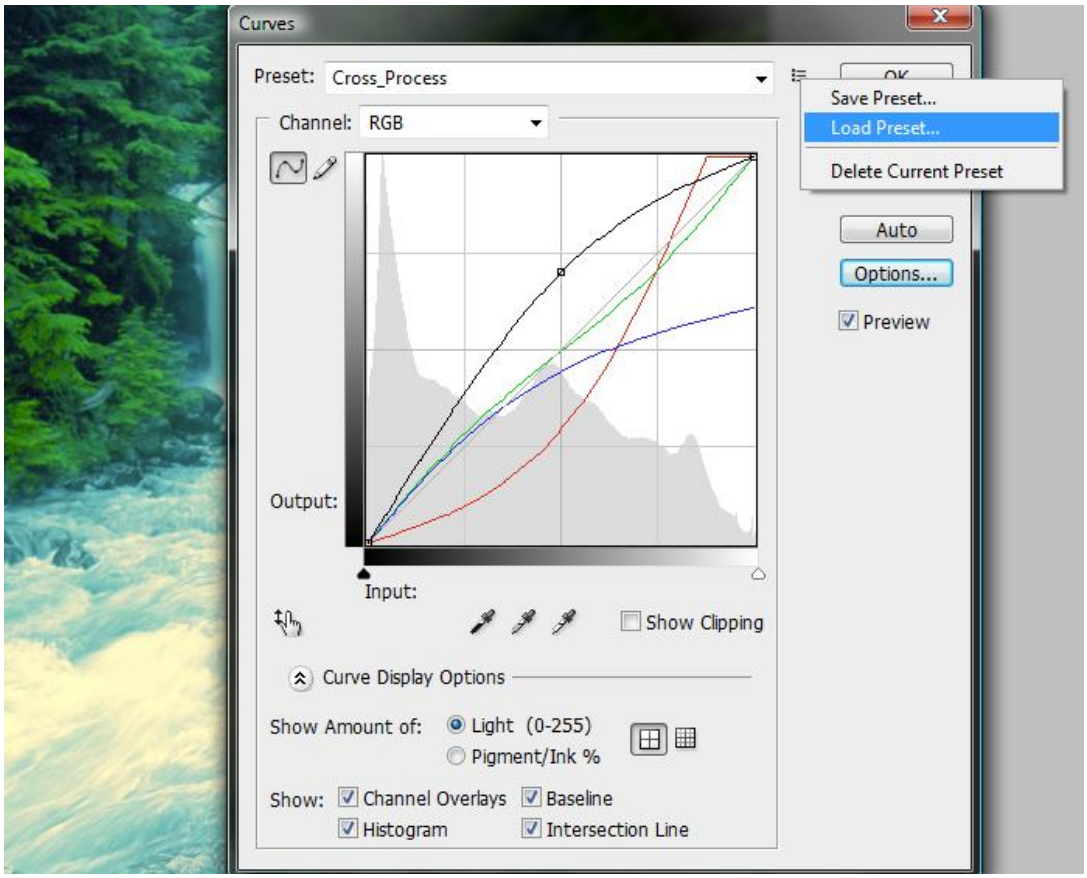


Note how the tones change on the image on the right as the overall contrast of the image is reduced. If you want to keep the change select OK.

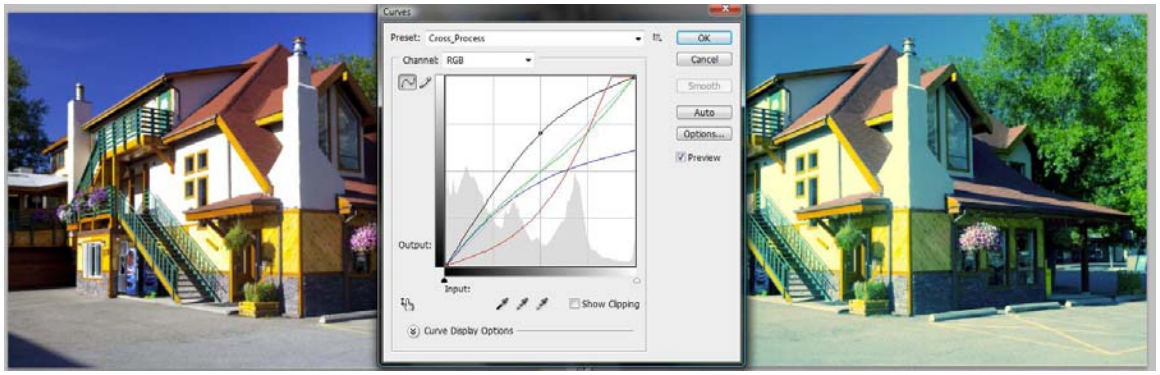
7. Unorthodox changes in curves can result in some interesting effects. Try pulling the curves into a wave and note the changes.

2.2 Cross processing is the procedure of deliberately processing film in a chemical solution intended for a different type of film often slide film in negative processing or slide film in chemicals meant for negative film. The effect is seen sometimes in fashion, advertising and band photography. You won't see the process used very often in Nature photography, but it might be useful if you are doing certain types of portraiture. We will use someone elses curve preset and load it to produce the cross processing effect.

Any settings you make in the curves box can be saved as a preset and you can then load them onto other images. Curves presets have the extension .acv and you can find reset examples on the Internet that different photographers have made. Open an image e.g. in the curves folder select the file building.jpg and then select Image>Adjustments>curves - at the top of the curves box select the drop down menu and select load preset. Navigate to the folder called curves and select the preset cross_process.acv and note how the preset curves changes the colours in your images. I am not a big fan of cross processing because I shoot primarily nature photographs, but if you are looking for a surreal effect this is one way to achieve it.

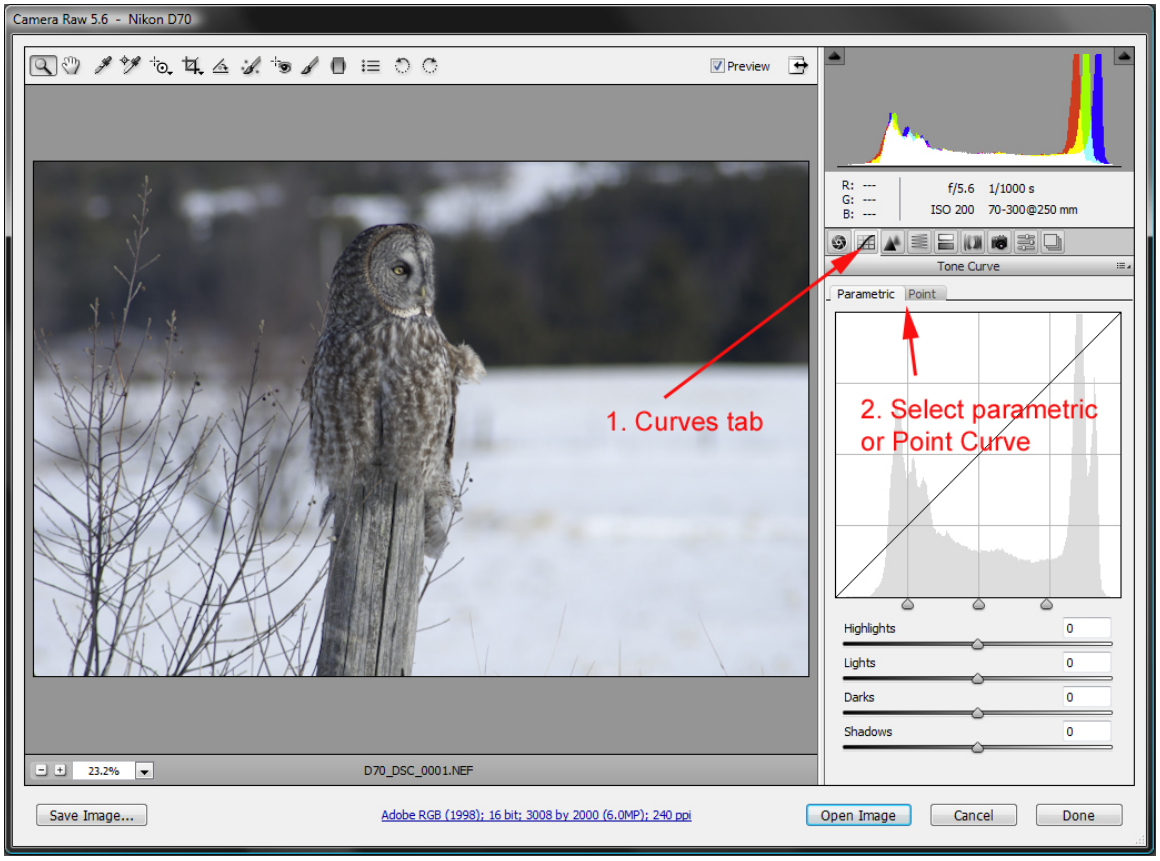


Select the top right box until you view Load Preset - select it then navigate to the folder and load the cross_process.acv file and note the change in the appearance of your image. The effect is not generally suited to nature photography but were you want to make an image look unusual or grab attention. The image is supposed to look surreal not real. Try the effect on the image building.jpg



The image on the left is normal and the one on the right after loading the cross_processing.acv preset. You don't have to like it - just know that you can do it if you want to and without using chemicals and you can view results instantly. Feel free to experiment and pull on the different coloured curves to create a variety of effects.

Curves can also be applied to RAW files using Adobe Camera RAW. Open the RAW file D70_owl.NEF.



Select the 2nd curves tab on the right side of Adobe Camera RAW (ACR), then select point curve (has points already placed on the curve and you simply drag them) or Parametric curve where you control the curve by moving the sliders below the curve diagram. All curves whether you apply them in Photoshop or in Adobe Camera RAW accomplish the same thing. If you are working with RAW files and the image needs a boost in contrast then I recommend using the curves in ACR before opening the file in Photoshop.

Is it better to use curves in ACR or Photoshop? Generally it's better to apply the curve to your RAW data, however you can achieve similar results in Photoshop by using a curves adjustment layer. You will learn how to apply a curves adjustment layers in photoshop in the following lessons and using adjustment layers is another way to modify your images non-destructively.

curves.mov

2.3 Adjustment Layers

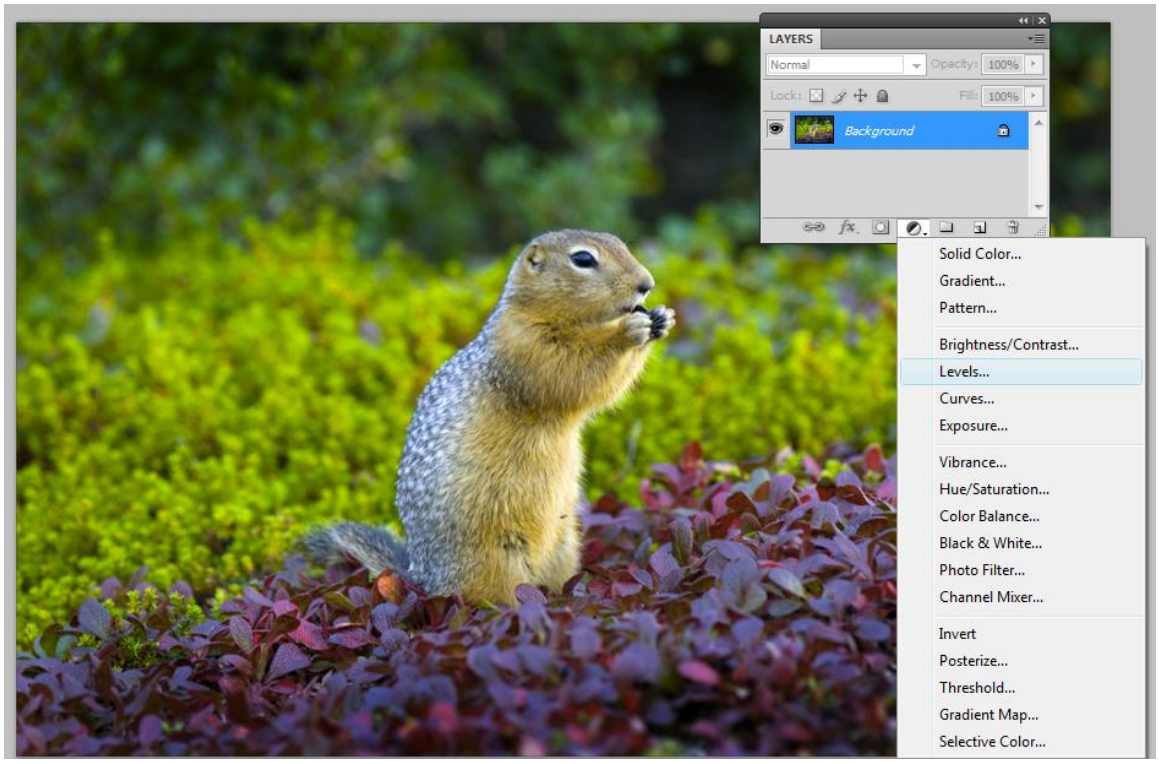
Adjustment layers are layers above the image where you make edits to curves, levels, colour saturation etc. and it affects the image below. Unlike performing these edits directly to an image, an adjustment layer is like a "filter" above the image affecting its appearance, but not really altering the data until you are finished and flatten all the layers. This allows you to make changes several times without affecting the actual data in the image you are working on. When using Photoshop for graphic design where we have many layers and the clients may change their mind about how the artwork looks - adjustment layers are very helpful. When manipulating photos I rarely perform the same adjustment twice so the value of adjustment layers is not as important as in graphic design, but the best thing is to learn how to use them and for you to decide. I always keep the original RAW file anyway and can always go back to the original file and start over.

We will look at adding adjustment layers then we will look at working with Photoshop CS4s' new automated adjustment layers.

1. Start Photoshop and in Adobe Bridge Select the folder Adjustments and open the file called groundsquirrel.jpg,

2. Open the layers palette so its is visible - if it is not visible select Window>Layers.

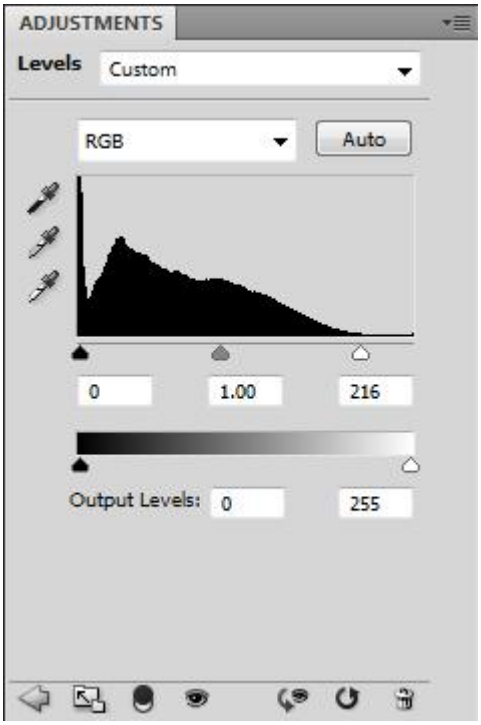
3. At the bottom of the layers palette click on the adjustment layer icon (black and white circle) to view the pop down menu showing the range of adjustment layers you can add to your photo.



Each option when selected will create an overlying layer that will allow you to manipulate the image properties.

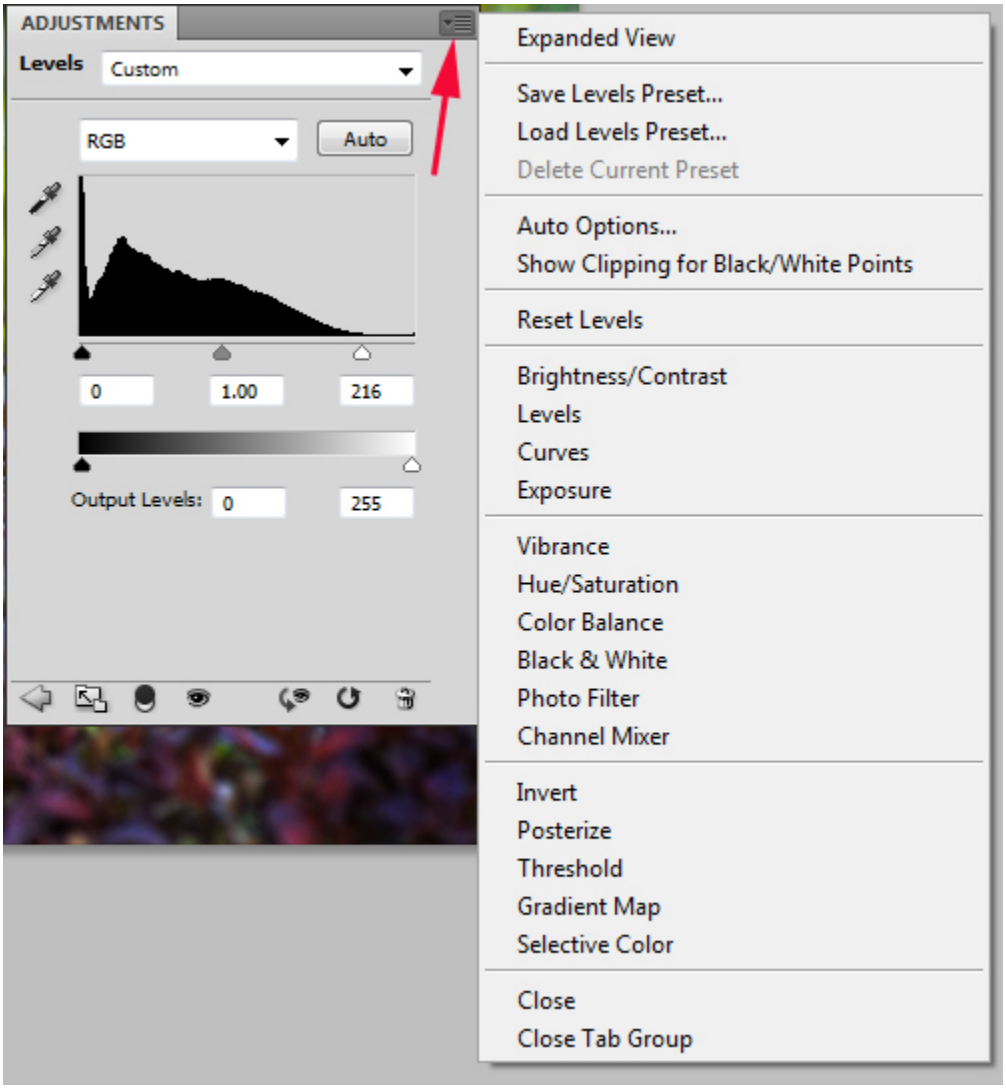
4. Select>levels to view the levels histogram pop up menu - then grab the highlight slider and move it to the left to where the histogram starts to rise up at about 216.

Levels adjustment layer appears above the Background image - select the highlight slider and move it to the left - so the right text box underneath reads about 216.

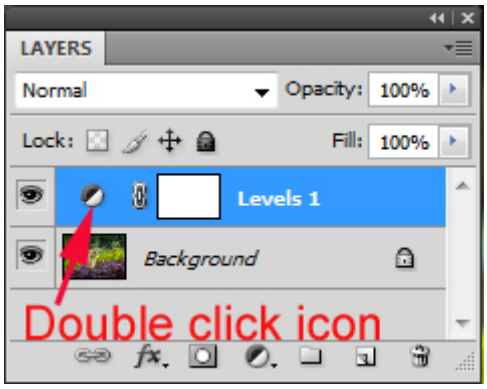


Moving the white "pointer" left to 216 brightens the image.

5. To Close the box - click on the top right of the panel and select close panel.

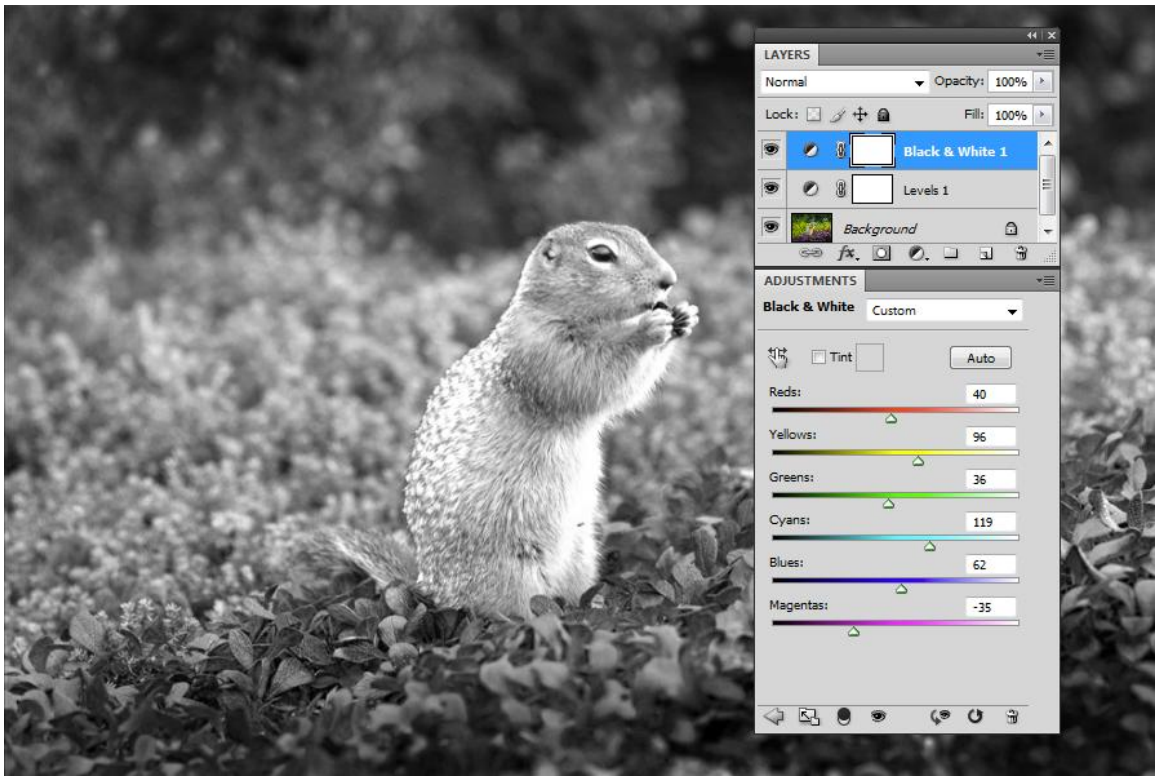


6. Anytime you want to reopen the levels box and make a change to the levels double click on the black-white circle icon in the adjustment layer - see below.



If you click on the layer or white box you will get different pop up boxes - so be sure to double click on the black\white circle icon to bring up levels again.

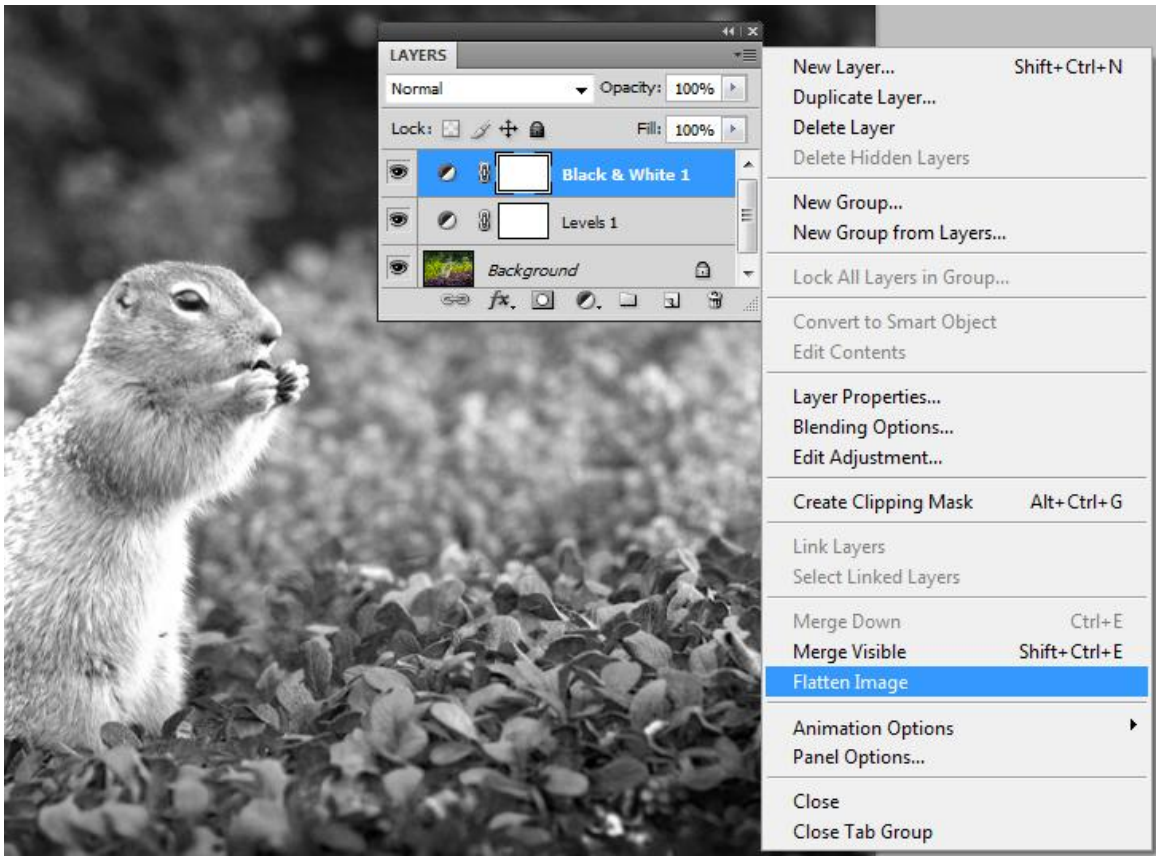
7. Now lets add another adjustment layer to convert the image to Black and white - on the bottom of the layers palette select the black\white circle icon to view the pop out menu and Select>Convert to Black and White.



You will see a new adjustment layer appear above levels and the Black and white panel as shown above. Again vary the sliders to get the image to look as you like then close the adjustment pop up menu. To Bring the menu back - double click on the Black\white circle in the layer. You can also turn an adjustment layer temporarily off by deselecting the eye icon on the left side of the adjustment layer.

If you decide that you don't want your image to be Black and White - you can click on the Black and white layer and then drag it with your pointer to the bottom over the garbage can icon and it will be deleted. When you are finished you have the choice of saving the image file as a Photoshop file (.PSD) or a layered .TIF file if you think you might want to change an adjustment in the future. If you want to save the file and make a print or put the image on the web - you should flatten all the layers which combines them into one layer and then save your file. Once and image is flattened you lose the ability to go back in and make a change to the adjustment. To Flatten the layers select the menu pop out option at the top right of the layers palette and select >flatten image - then save your image. Always give your file a new filename so you don't save over top of your original image.

Adjustments.mov

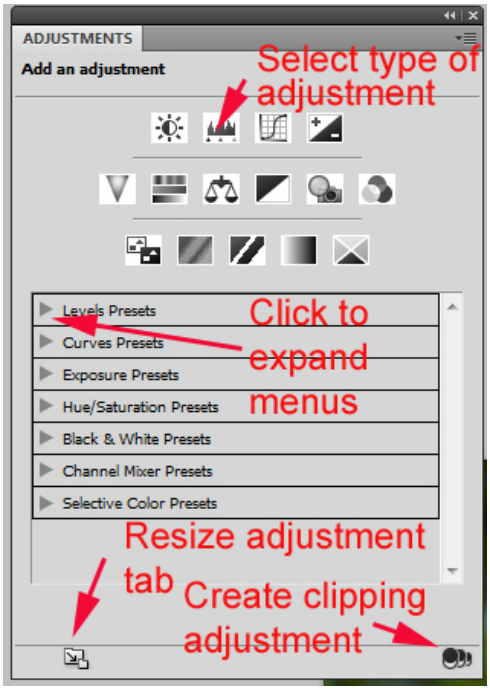


Keep in mind that you could have adjusted the levels through the top menus - Image>adjustments>levels and you could have converted the image to Black and white using Image>adjustments>Black and white. The advantage of using an adjustment layers is that it does not affect the image data until you flatten the layers and is non-destructive in terms of the image data and is less likely to cause artifacts such as posterization. Using an adjustment layer offers more flexibility to change your mind, but essentially it is just another way to accomplish a task - which method you choose will depend on your work style.

2.4 Automated Adjustment Layers

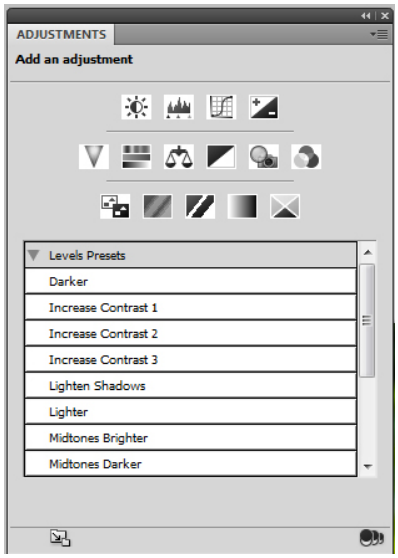
Next we will look at the Automated adjustment panel and I will say right off that I am not a big fan of automated controls or adjustments, but they may useful as starting points and for learning how to apply adjustments.

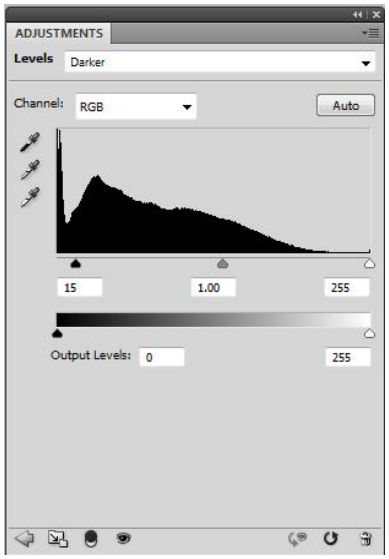
1. Select Window>Adjustments - the automated adjustments panels has several features that allow you to first select the type of adjustment you want to apply. These are the icons at the top. If you run your mouse pointer over them you will see text pop ups telling which type of adjustment they represent e.g. brightness\contrast, levels, curves etc. Below these icons you will see triangles pointing right - and text e.g. Levels Presets, Curves presets. At the lower left is folder with an arrow which allows you to resize the panel window. At the right bottom corner is an icon which creates a "clipping layer". Normally when you create adjustment layers they all affect the bottom image as a combination as in the previous exercise the levels adjusted the tones in the picture and the BW adjustment layer made the bottom image Black and white. Graphic designers often work with multiple layers perhaps a photo, a logo, text etc. and they may want to adjust each layer separately from the others - to do this they create an adjustment layer above it then convert it to a clipping layer or path so it only affects the layer immediately below - the icon in the lower right converts adjustment layers to clipping layers. We won't be using clipping layers in these lessons.



Automated Adjustment layer palette.

2. Click to expand the levels Presets - and select the Darker option.





When you do this you should see a new panel with a histogram (top right) - from the top of the histogram panel you can select different presets from the drop down menu. My advice is to play with the presets and examine what happens. Each time you select an adjustment layer option it will add an adjustment layer to your layers palette and you can edit them just like you did earlier with adjustment layers you added manually and you can also delete these auto adjustment layers. When you are done working on your image remember to flatten all the layers and save your file for printing or the web.

autoadjustments.mov

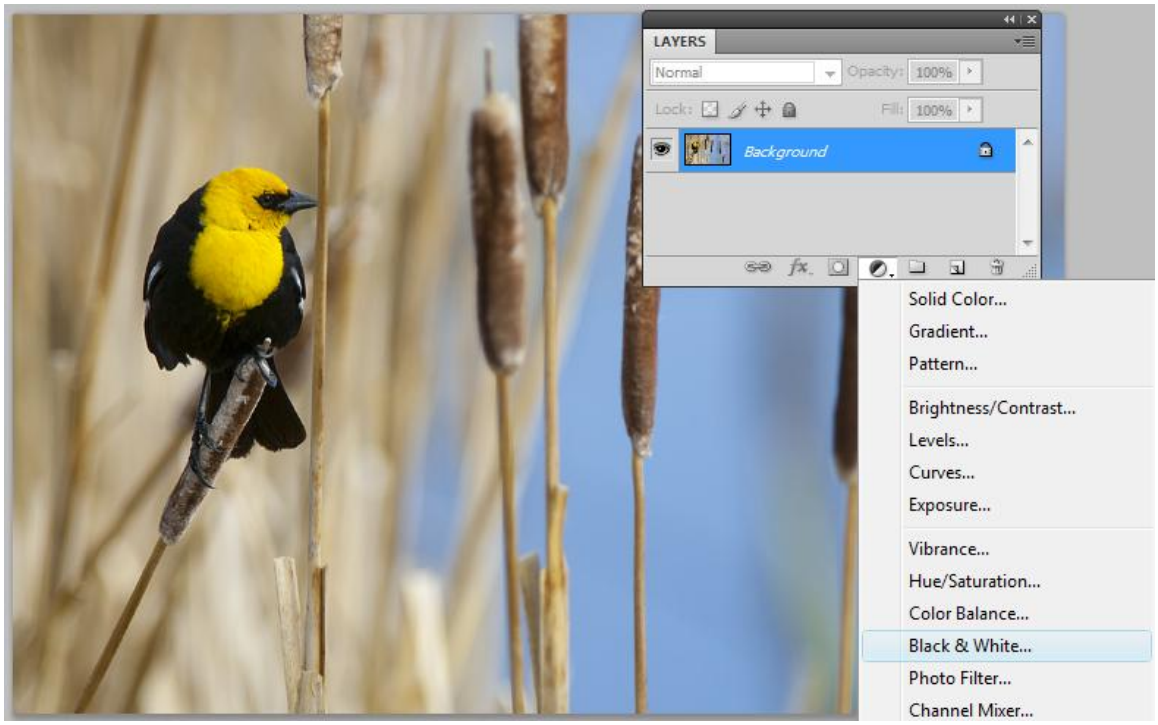
2.5 Adjustment Layer Masks

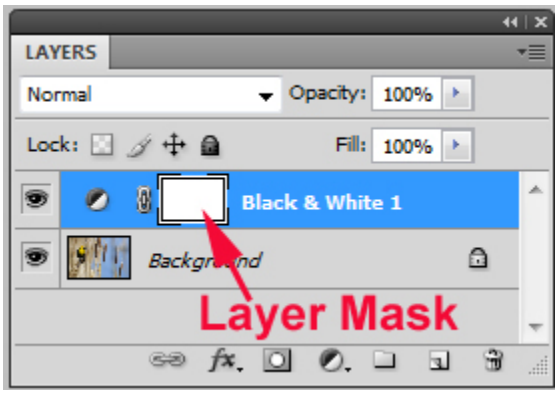
In the next lesson we will look at a very useful tool called layer masks. A mask essentially allows the photographer to selectively show parts of a photo while hiding other parts. Layer masks can be used to create edge effects around a photo, blend one photo seamlessly into another and are the basis of stitching images to form panoramas.

How to do layer masks work? Layer masks can selectively show some regions and hide others. When you paint with black on the layer mask this makes the area where you painted transparent so if there is an image below you will see the lower image show through where ever you painted black. If you paint white you will cover up the "holes" and hide the area below. If you paint with gray - then the area below will show through, but it will appear with varying amounts of opacity depending on how light or dark the gray is. For this reason if you create a black to white gradient on the layer mask you can make one image appear to gradually fade into the other or blend. We will look at several ways you can apply layer masks to your pictures.

In the previous lesson we worked with adjustment layers - each adjustment layer comes with a layer mask attached to it when you create it.

1. Go to the folder called masks and open the file called yellow_headblackbird.jpg. Make sure your layers palette is open, if not select Window>layers. At the bottom of the layers palette select the adjustment layer option and from the pop down menu select> Black & White. Adjust the Black and White sliders as you like for the conversion. You will see an adjustment layer above the Background and a layer mask on the right side that appears as a white rectangle.



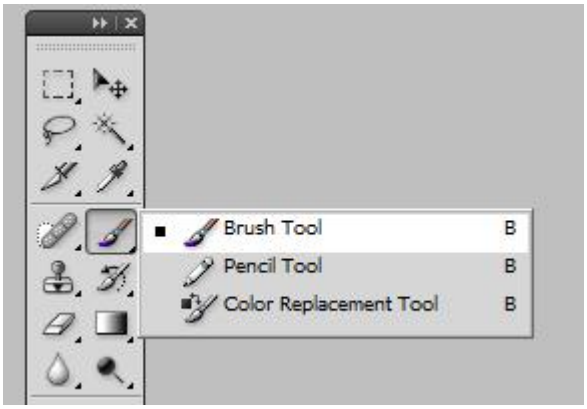


The layer mask is white and it will appear with any of the adjustment layers that you add to your picture.

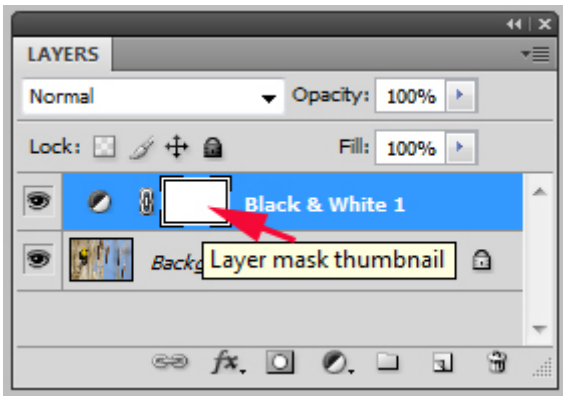
2. To make the mask selective - that is reveal just part of the image below we need to paint on it with a black paint brush. First make sure your foreground colour is set to Black and the background colour is set to white on the tools panel as shown below.

Foreground set to black and background should be set to white.

3. Select a brush tool from the tools panel, set the diameter in the top options bar to about 30px, hardness to 0%, and Opacity to 100%.

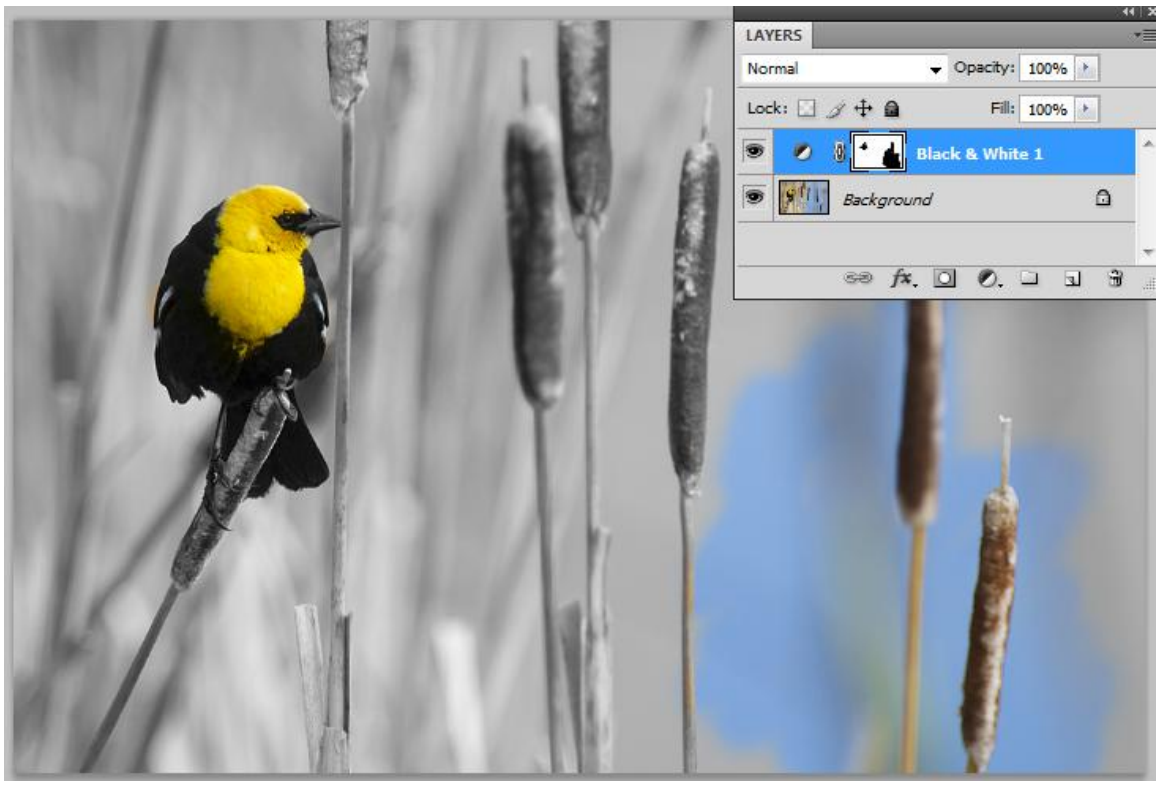


4. You should have the foreground colour selected which is black. Then in the layers palette click on the layer mask icon to select it.



Click on the layer mask icon to select it.

5. In the main window in Photoshop use your black brush to paint over top of the yellow headed blackbird. Where ever you paint black on the layer mask you will see the colour return to the photo because you are creating "holes" in the mask that allow the colour below to show through the black holes on your mask. Change the brush colour to white and paint back over and you will hide the coloured regions as you cover up these holes.



In the picture above I painted over the yellow feathers and also on the right side of the picture. Note on the layer mask the black areas - these are transparent and form transparent areas or holes. You can paint on the layer mask of any of the adjustment layers. The main message to take away from this lesson is that black paint on a mask creates holes to reveal what is below and white paint will cover the holes up. Remember when you are done you should flatten the layers in the layers palette (select the pop out menu option from the top right of the layers palette - and then select the option, flatten to combine the adjustment layer with the bottom Background image).

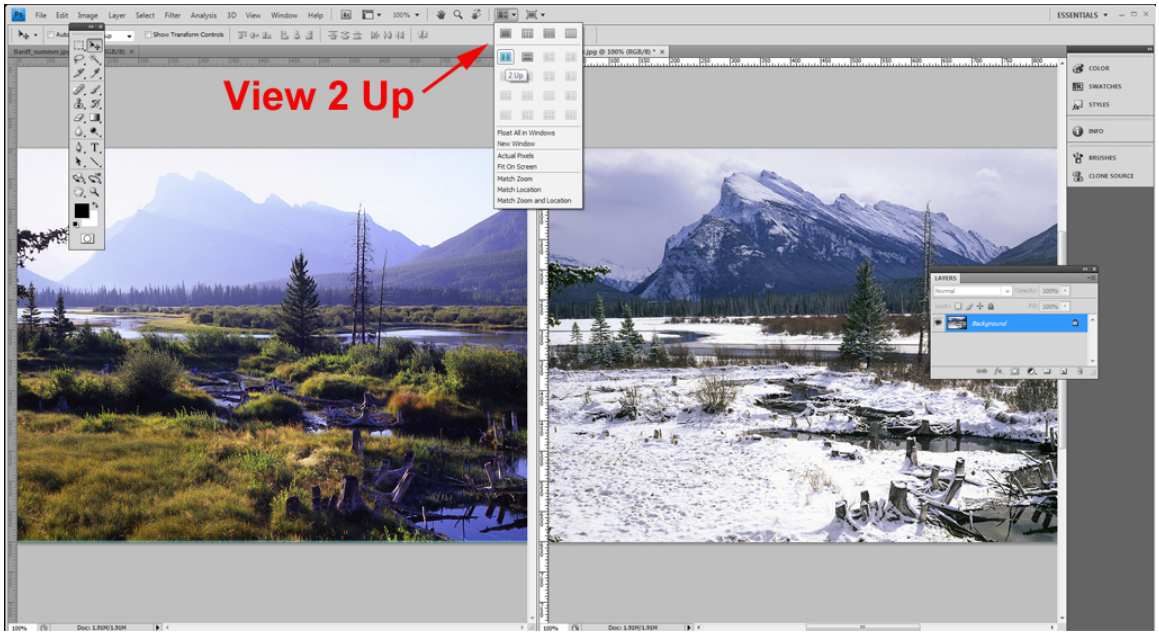
layermasks.mov

2.6 Add a layer mask to reveal selected parts of an image

In this lesson we need to use two images with the same dimensions and resolution. We will place one image on top of the other to form a new layer - then we will create a layer mask next to the top layer and paint on it to reveal the image below. Finally we will paint with a black-to-white gradient so the image blends seamlessly from one season into the other as shown below.

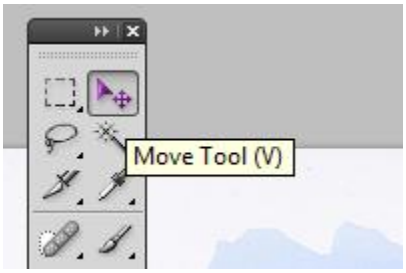
The image above was created by taking two photos from the same location, one in winter and the other in summer, layering one on top of the other then creating a layer mask with a black to white gradient.

1. In Photoshop go to the masks folder and open both images > Banff_summer.jpg and Banff_winter.jpg. Both images are the same size (1024 x 651 x 72 dpi).



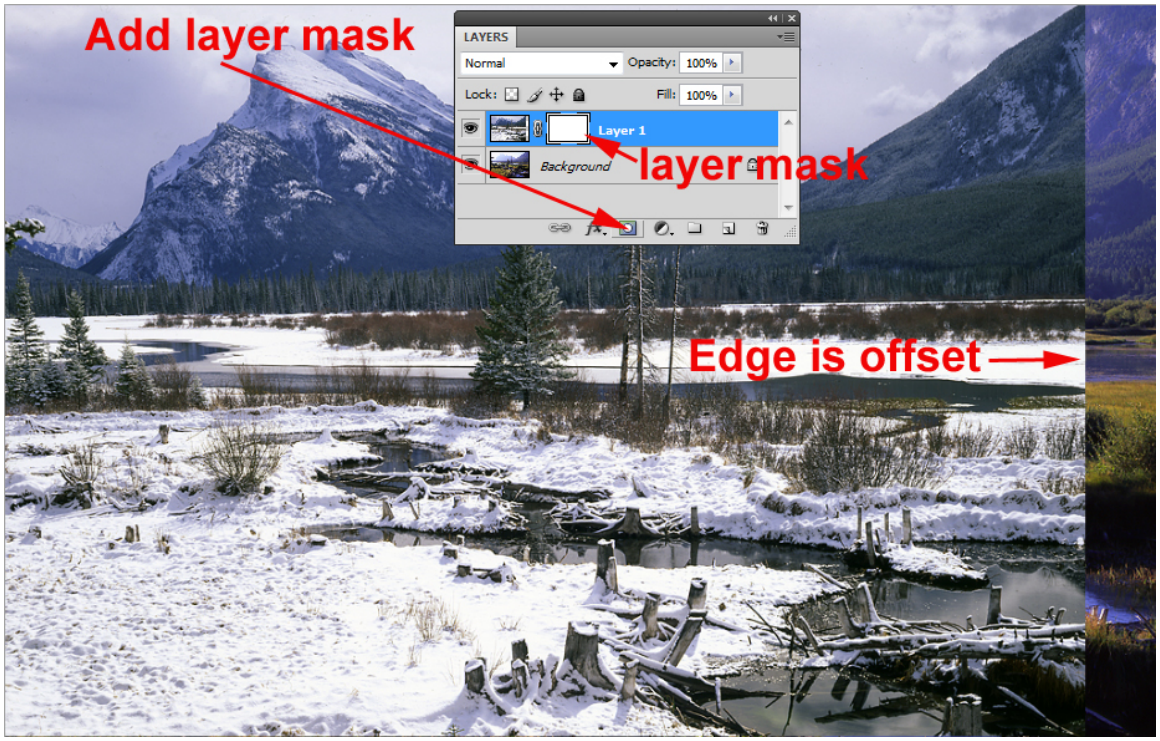
2. At the top of Photoshop Select View 2 Up so you can see both images side by side and have the layers palette open as shown above.

3. We are going to place one image on a layer above the other - this technique will work with either image on top - then we will add a layer mask. The easiest way to move one image on top of the other is to use the move tool. Select the move tool in the tools palette.

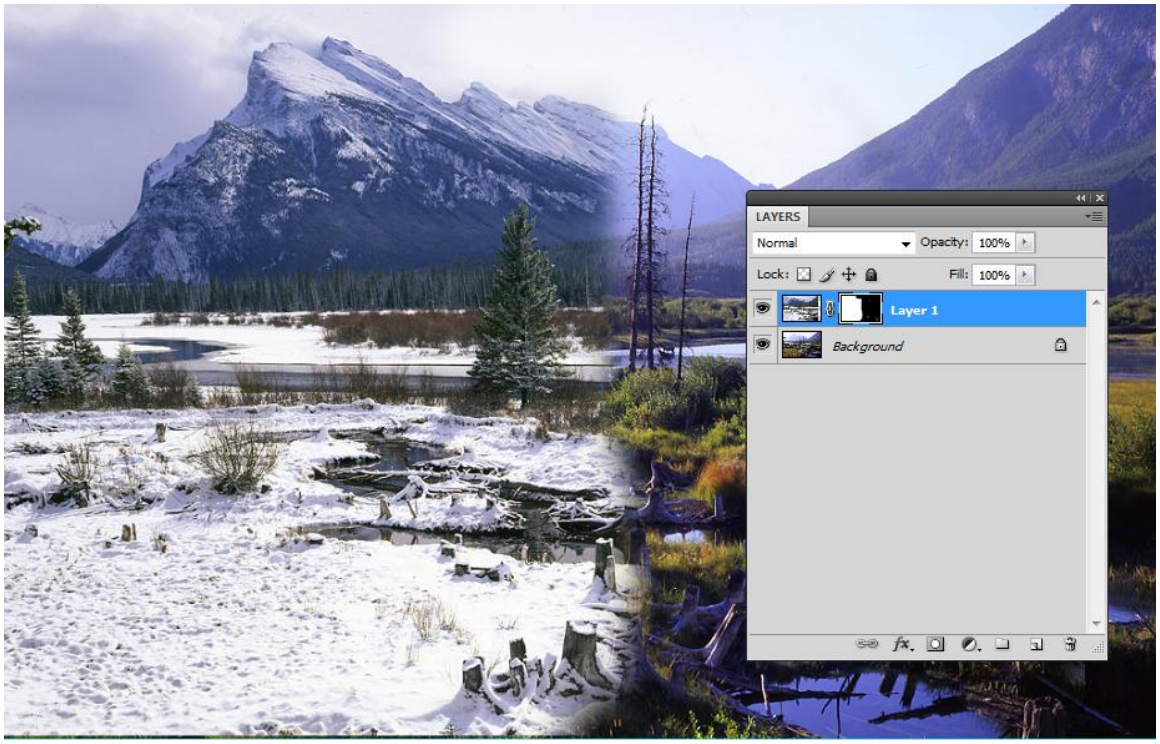


Select the move tool in the main tools panel.

4. Place your cursor over the winter image - then drag and drop it over top of the summer image. Use the move tool to line up the two images. If you reduce the opacity of the top layer so you can see through it and this will make lining the images up easier. Select the top layer and reduce the opacity of the layer to about 50% so you can see the underlying photo below it. With the move tool drag the top layer so the edges of the mountains line up as best you can. You can also move the image one pixel at a time by using the arrow keys on your keyboard. When you are done adjust the opacity back to 100%. Don't be too concerned if the images do not line up exactly.



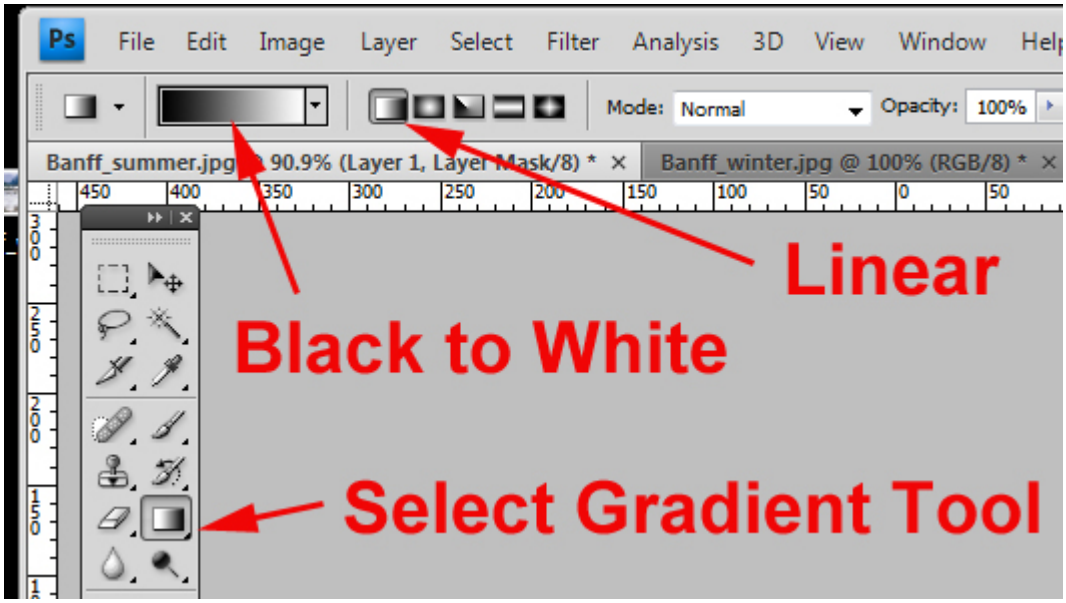
5. We are going to blend the top image into the bottom image using two methods so you understand how the mask works. Make sure your foreground color is set to Black and the background colour is set to white in the main tools panel. Select the paintbrush - brush diameter about 100 px and the hardness set to zero. Click on the layer mask icon to make sure it is selected. Then start painting black on the main picture starting in the middle of the picture and moving right. As you paint with black you will make the summer picture appear below. When you paint near the middle of the picture try to keep you edge "soft" with no hard edges.



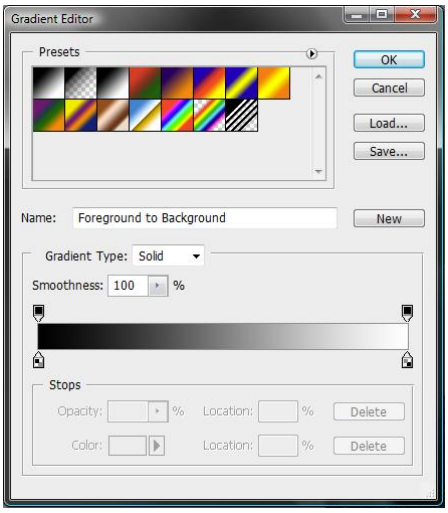
When you paint black on the mask layer the summer picture appears on the right side because painting black on a mask makes it transparent in those regions. If you make a mistake you can change the paint brush to white and return some of the areas you don't want to reveal. When you are finished - we are going to delete the mask and try the same technique using a gradient. Right click on the mask icon in the top layer and select delete layer mask.

6. Add a new layer mask to the top layer again by selecting the layer mask icon at the bottom of the layers palette. Make sure your foreground colour is set to Black on the main tools panel and the background colour is set to White.

7. In the main tools panel select the gradient tool, and at the top of the options bar make sure the gradient is set to black to white and linear.



If the gradient is set to black to transparent - simply click on the gradient in the top to open a pop up box and select the black to white gradient (Foreground to Background).



Gradient editor - select the gradient in the top left corner black to white - Foreground to Background.

8. Make sure you have the mask in the top layer selected in the layers palette. Then place your cursor near the middle of the photo, click your mouse and then drag it about one inch to the left to create a narrow gradient black to white from right to left.

Your image should look something like this (without the red text). If you look at your layers palette you will see the mask is black on the right and white on the left. By using a gradient we can make the transition between pictures very smooth so one image appears to gradually blend into the other. You can apply the gradient several times and experiment with varying the width. If you make the gradient narrow (short drag) the transition occurs quickly, if you make a long gradient the transition occurs more slowly. You can also use the paint brush to touch up areas on the mask by painting with black or white.

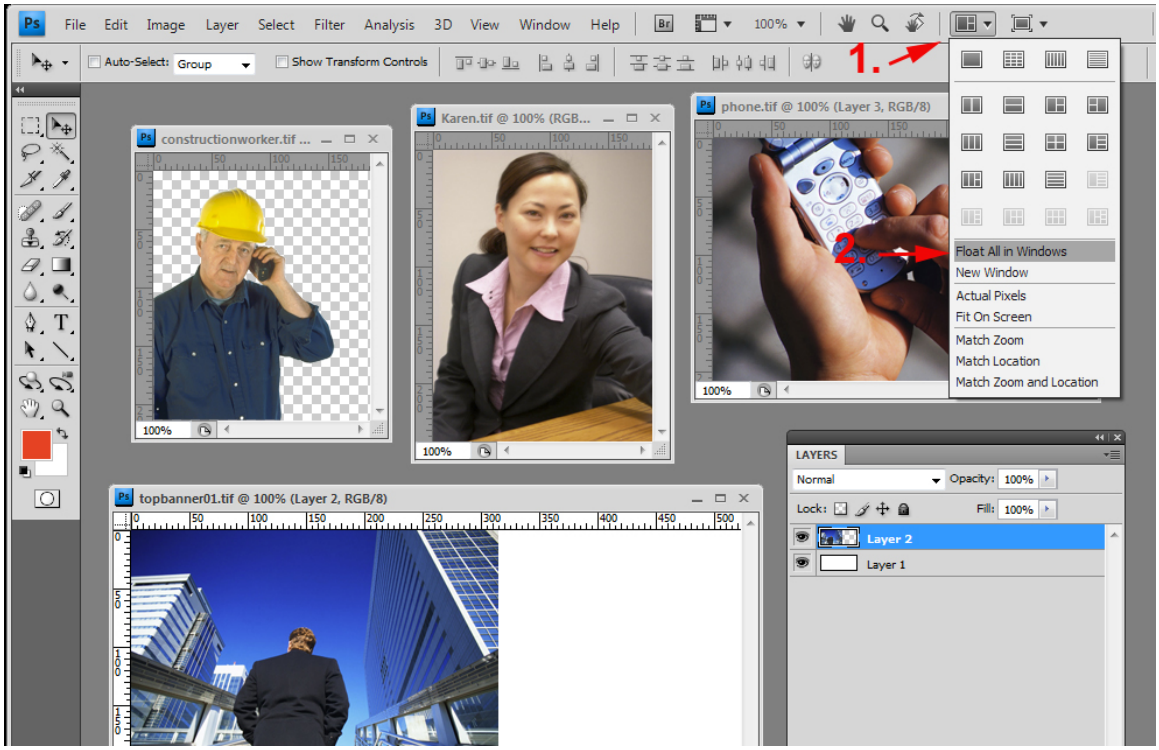
layermaskreveals.mov

2.7 Creating a Photomontage

In this next lesson we will combine several images and blend them together using masks and gradients as shown above to create a banner. This blending technique can be used to stitch any images together including images to form a panorama.

1. Using adobe bridge navigate to the folder called banner, select and open the following images: topbanner01.tif, phone.tif, constructionworker.tif and Karen.tif. The topbanner01.tif will form the base of your image. You can Ctrl-click on all the images to select the images you want to open then select open to open all of them simultaneously.

2. From the top Edit bar select float all windows so you see all of the windows at one time.



Float all windows allows you to see all of your images at one time.

3. With the move tool select the picture phone.tif and drag it onto topbanner.tif and position it so it covers the white area on the right of the topbanner.tif as shown in the picture below. It is important when blending images that they overlap - otherwise when you create a gradient mask you will see just white below the image.

4. Select Layer 3 in the layers palette then add a layer mask by clicking on the bottom layer mask icon. Make sure your foreground colour is set to black and background colour is set to white in the main tools panel. Select the gradient tool - it should be a linear gradient from black to white. Place your cursor on the banner picture starting at the left edge of the phone picture and drag to where the man's left thumb is. This should create a soft blend from left to right.

Drag the gradient from left edge of phone photo to about the man's thumb to create a smooth blend.

5. With the move tool, drag the picture of Karen.tif onto the topbanner01.tif image and place her flush with the right side of the banner. Add a layer mask and then drag the BW gradient from the left edge of here photo to about where her neck is and you should see a nice soft blend.

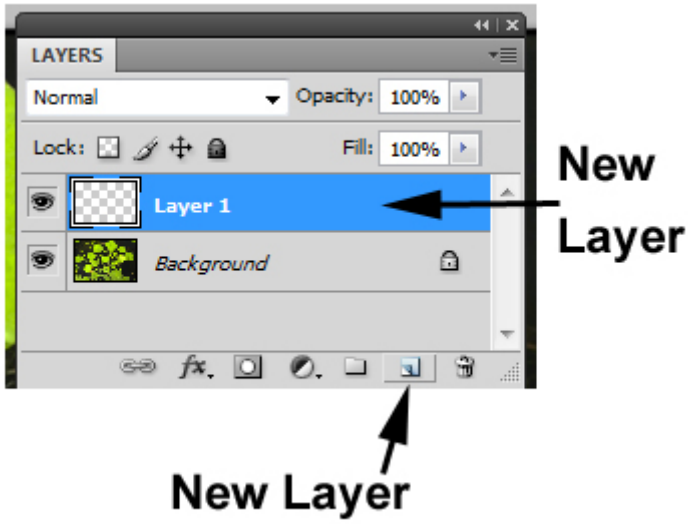
6. Finally - drag the construction worker image onto the banner to the left side of the photo. Create a layer mask and drag a BW gradient from the right edge of the photo to about where the phone in his hand. When you are done - select the layers palette and flatten all the layers. Your image can be saved for the web or for printing. Images in this banner tutorial were purchased stock photos but you can apply the technique to any images you own to create interesting montages.


blendingbanner.mov

2.8 Layer Effects using Masks

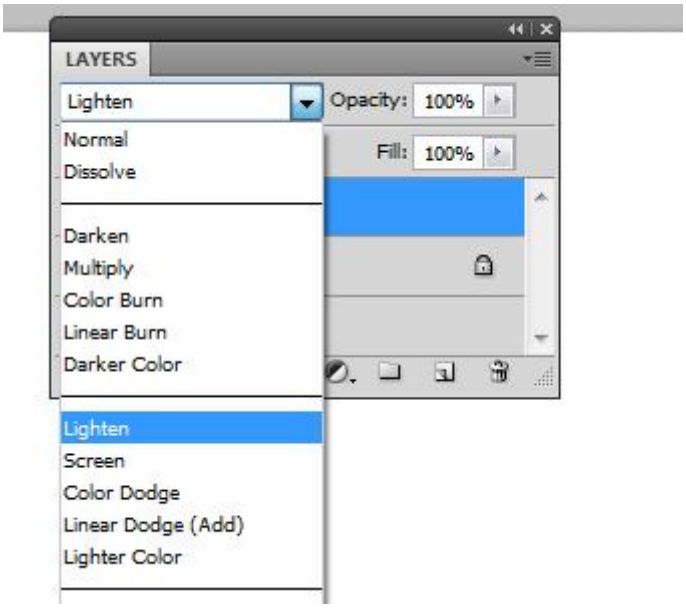
In this lesson we will create a layer above your picture, fill it with white, then change the blending mode on the layer to **Lighten.** When you paint over the layer with a black brush it will create transparent areas or holes that allow the picture below to show through. By selecting brushes that differ in shape and size you can produce a variety of interesting effects.

1. In Photoshop go to the folder called masks and select lillypads.jpg and open it. Open the layers palette and at the bottom of the layers palette add a new layer.



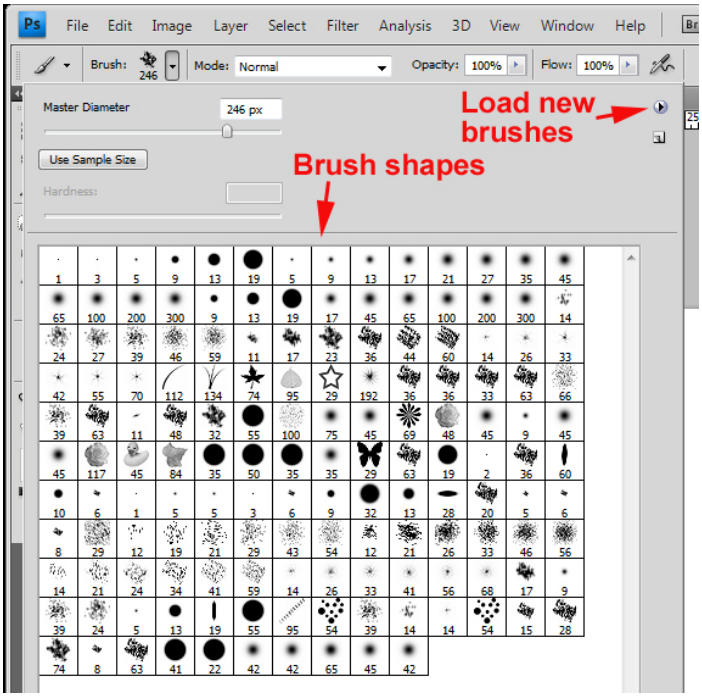
2. Select the Layer 1 in the layers palette, make sure the foreground colour in the main tools panel is set to white, then select Edit>Fill - use foreground colour > OK - this will fill the entire layer with white.

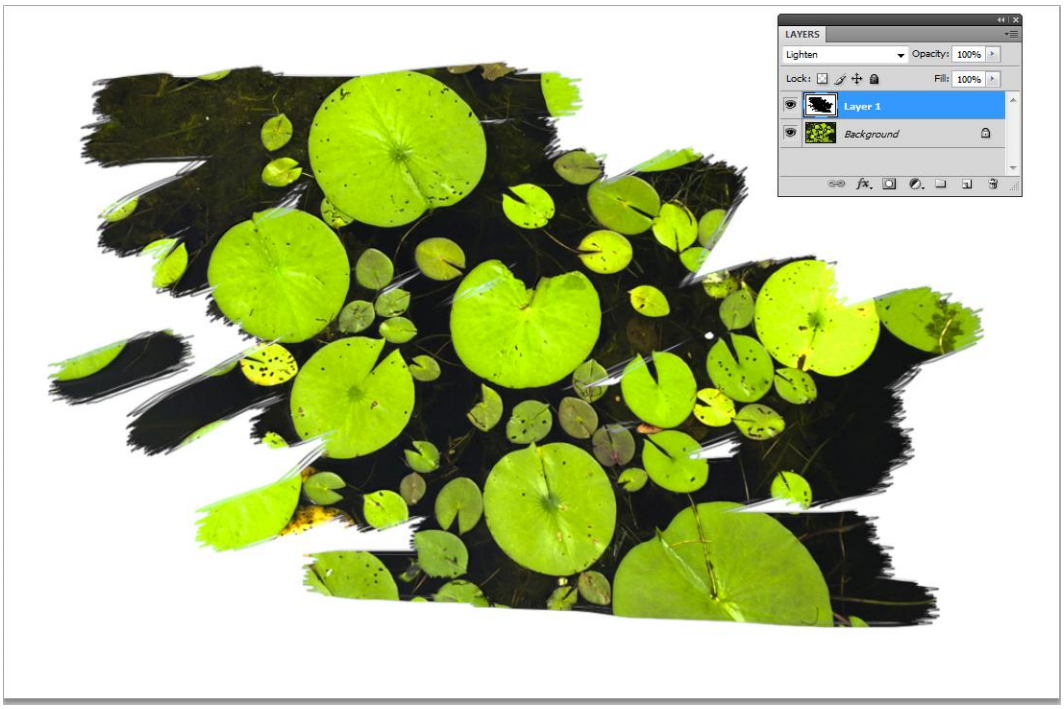
3. In the layers palette - top left - from the drop down menu change the blending mode to **Lighten.**



4. Change the foreground colour in the main tools panel back to black and select the brush tool. Make the brush diameter large e.g. 250 px in diameter in the top options bar and select a paint brush. You

can load and append additional brushes to the palette, you can download brush shapes from the internet and you can even make your own custom brushes using any graphic or picture (view Photoshop Help for instructions on how to create a custom brush). Now select a brush shape.





When you paint with black on the white layer and the blending mode is set to "Lighten" anywhere you paint black will show the image below. You can create and infinite variety of brush strokes. When you are done simply flatten the image or try a different brush. If you don't like the effect, simply delete the overlying layer and try again or you can cover up regions you painted black by painting with white.

2.9 Using Scanned images to create layer masks.

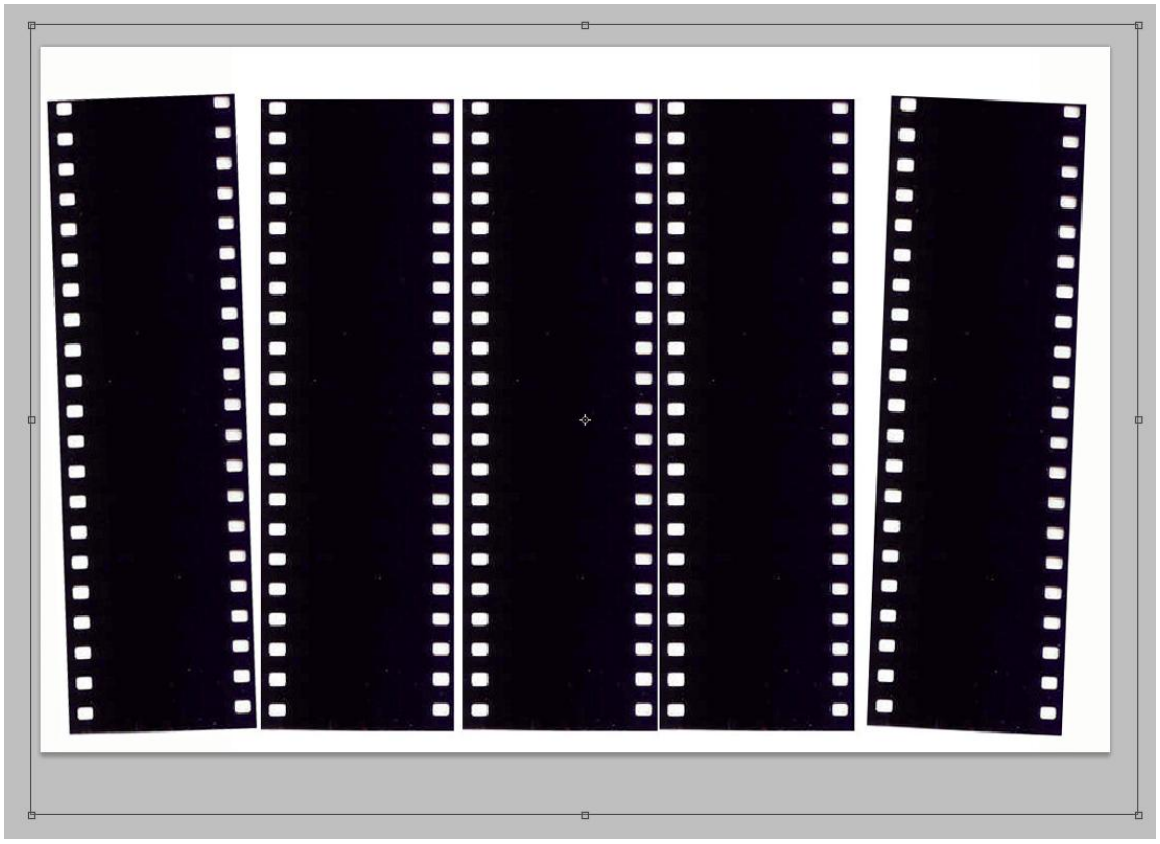
Here is an example of making a mask by scanning strips of unexposed film, adjusting the scan so that it is only black and white, then dragging the mask over the image and setting the blend mode to **Lighten**. Using this technique you can create a variety of interesting overlays.

1. Go to the folder masks and open the image called horsesbw_color.jpg.

2. In the same folder open the file called filmstrips_mask.jpg.

3. Ideally both the mask and image you are using should be the same size and resolution. These images are close enough that we can simply resize the overlying mask.

4. Select the move tool, and if necessary select float all windows so you can see both the filmstrips.jpg and the horses picture. Drag the mask overtop of the horses picture. The film strip picture is a little smaller then the background image. To resize the top image choose Edit>Free transform or just click the shortcut "Ctrl-T" and resize the image as shown below. When you are done click OK.



5. Select the layers palette and change the blending mode on the top layer to **Lighten** and you should see the underlying photo through the overlying film strips. By creating different masks you can create a variety of effects.

6. Repeat these steps with the same photo, but this time open the file polaroid_mask.jpg. Drag this file over top of the photo then resize the image by selecting Edit>free transform or Ctrl-T. Don't worry about distorting the polaroid image. When done - change the blend mode of the top layer to Lighten in the layers palette. See below.

usescanmask.mov

3.0 Scan and convert an image into a high contrast Black and White mask

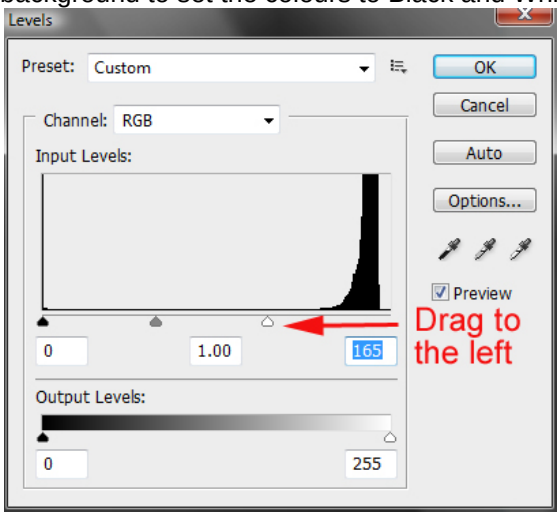
In this lesson we will take a leaf that was scanned in colour, convert it to BW, then convert it into a high contrast mask so there are no shades of gray only black and white. You can take a scan or photograph of almost anything, convert it to high contrast black and white and then apply it as a layer above your photo and change the blend mode to **Lighte**n to show the photo through the mask. You can even paint with black on the top layer to embellish the mask. This lesson will just show you how to create the high contrast mask.

Colour Scan | Convert to BW | Convert to High Contrast BW

1. Go to the folder called masks and open the image called scannedcolouredleaf.jpg

2. Select Image>Adjustments>Black and White - in the BW palette you can move the sliders to try to maximize contrast in the image. Drag Red to -98.

3. To adjust the image so there is only Black and white select Image>Adjustments>Levels and drag the highlight slider to the left to about 165. See below - you image should appear as high contrast BW. You can also select the left eyedropper (shadows) and click on the leaf, select the right eyedropper (highlights) and click on the background to set the colours to Black and White.



4. Once you have your mask you can drag it over top of an image, transform it e.g. rotate it and resize so if fits over top - then change the blend mode to **Lighten** to create the mask.

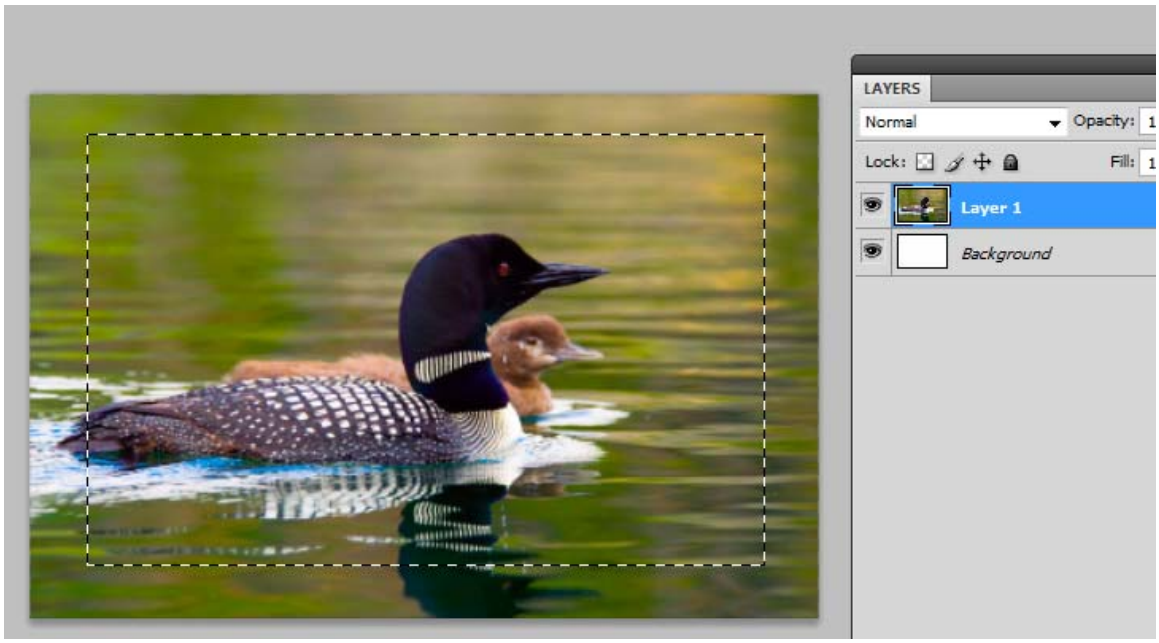
masksfromscan.mov

3.1 Quick and Easy Edge Effects

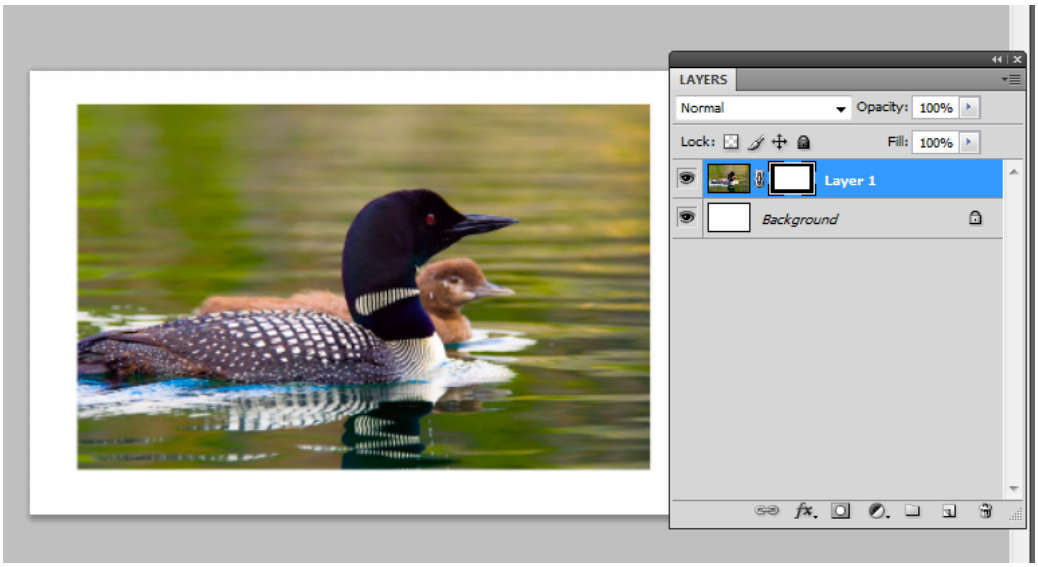
1. Open a photo you want to add an edge effect to in Photoshop CS4 – open the layers palette, select the background layer and duplicate it (Ctrl – J) or right click on the layer and select duplicate.

2. Select the bottom layer in the layers palette – Select All>Edit Fill and fill it with white.

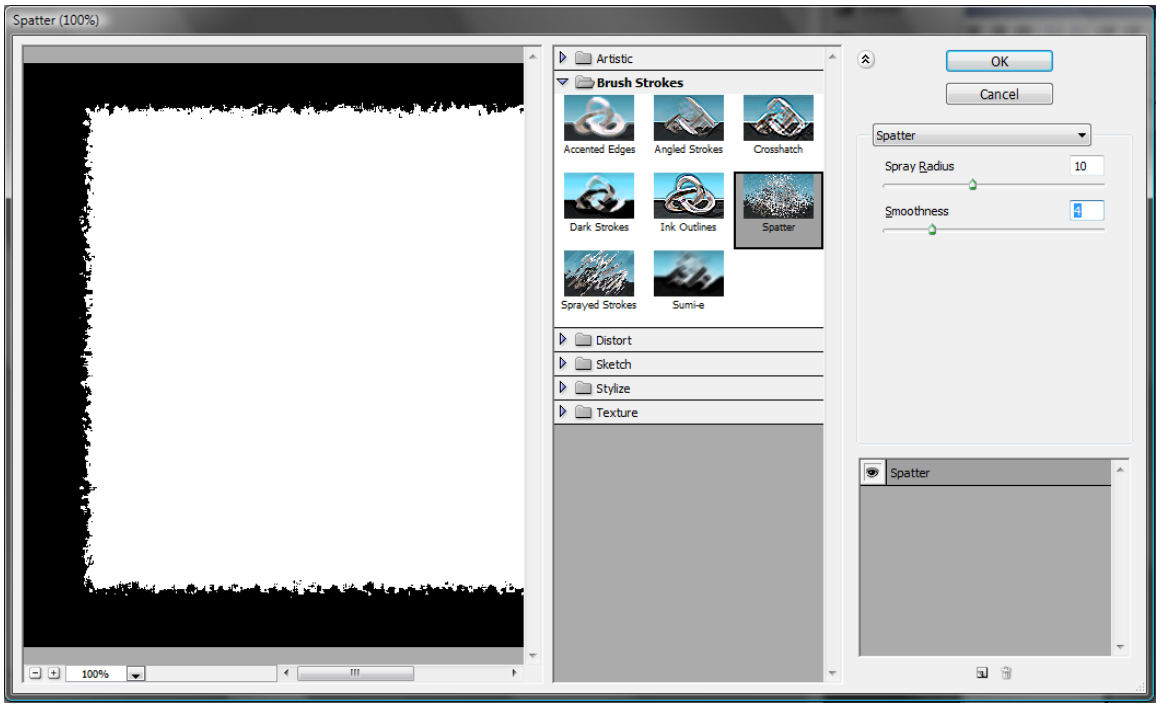
3. Select the photo in the top layer, then drag a marquee around the photo so as to leave approx half an inch of space around the edge (actual size will vary with the print size) - see below.

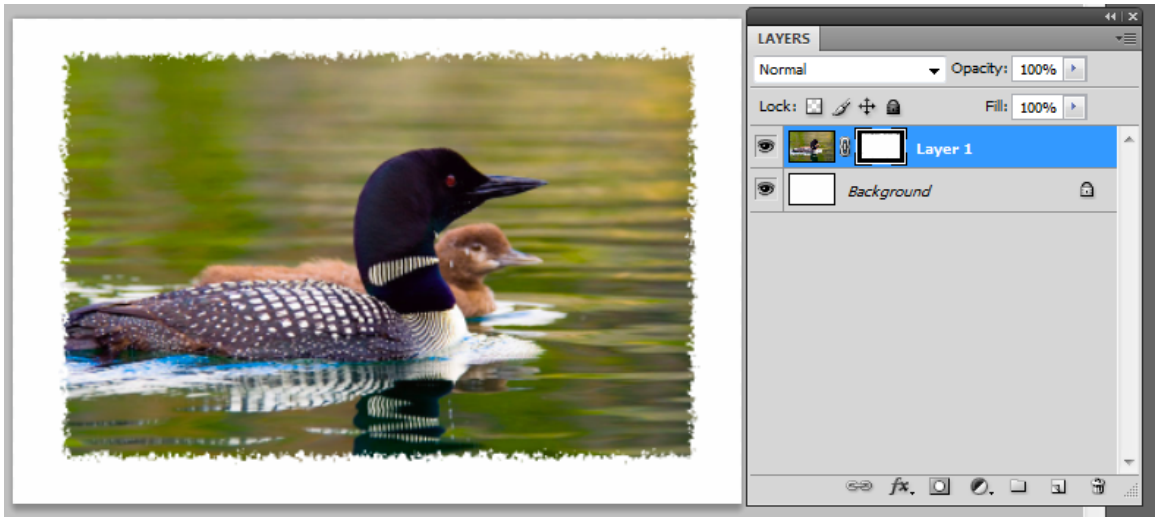


4. Then at the bottom of the layers palette click on the layer mask icon – and you will see a white border around the photo with a clean edge.



5. Click on the mask in layer two to select it, then select Filter>Filter Gallery> Brush Strokes or any of the filters and preview the effects on the mask edges. When you find a filter you like select OK. You can create a variety of edge effects this way quickly and easily.





You can also paint on the mask with white and black or use a variety of different shaped brushes to modify the edges.

easyedgeeffects.mov

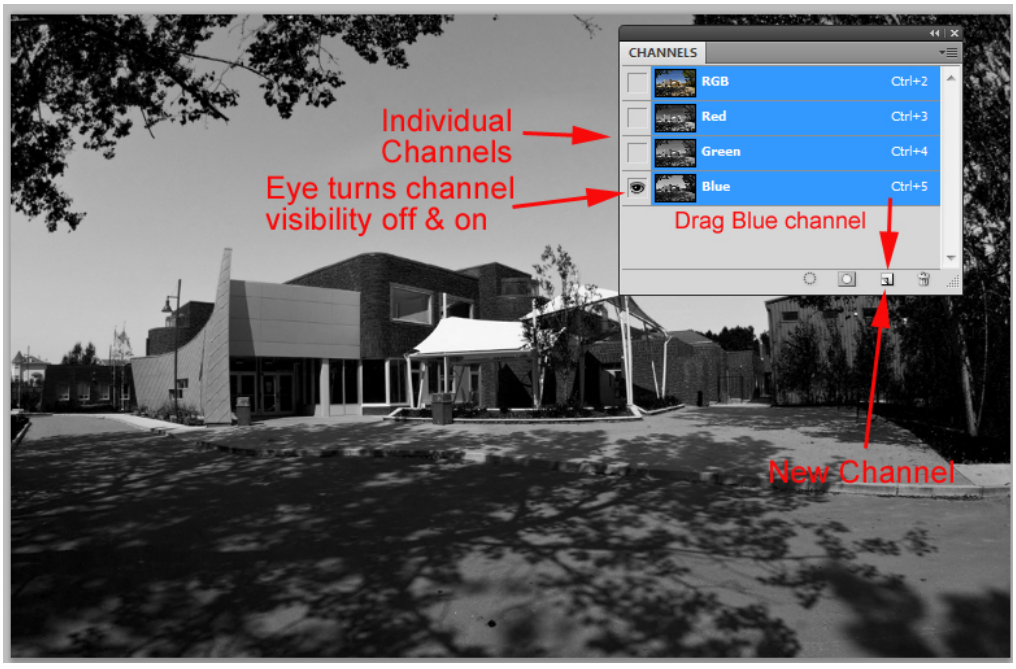
3.2 Replace Sky using an Alpha Channel Selection

In this lesson we are going to replace the sky in a photo containing trees and lots of fine branches. In a picture where the sky is clearly separated from the ground this is usually simple - we select the sky region, copy another sky photo and paste it into the selection. However, when the separation of the ground and sky is more complex we can resort to using an "alpha" channel which is one way to create complex selection. It is also important to note that when changing the sky in a photo you need to pay close attention to the quality and direction of light. If you put a sunset photo behind the building and there is strong front lighting - then you will have a poor match. See the photo bow_redsky.jpg for an example of this. I have provided two foreground photos with buildings that you can try this on - the second picture of an old home in the field is more difficult because of the fine branches and lack of leaves on the trees.

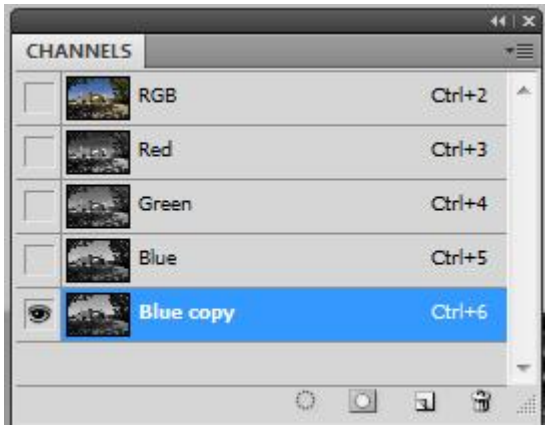
1. In Photoshop go to the folder called skies and open the file bowhabitat.jpg. We will replace the sky in this photo with another picture called sky01.jpg.

2. Colour photos are made up of three channels Red, Green and a Blue channel. We are going to select one of these channels - the one which has the most contrast between the sky and building - which is usually the blue channel. To view the channels Select Window>channels.

3. In the channels palette unselect the eye icon on the left side of RGB, R, G channels leaving only the blue channel visible. Make only the Red, or Green channels visible and compare them. We want the channel that has the greatest contrast between the foreground and sky which in this case is the Blue channel. .

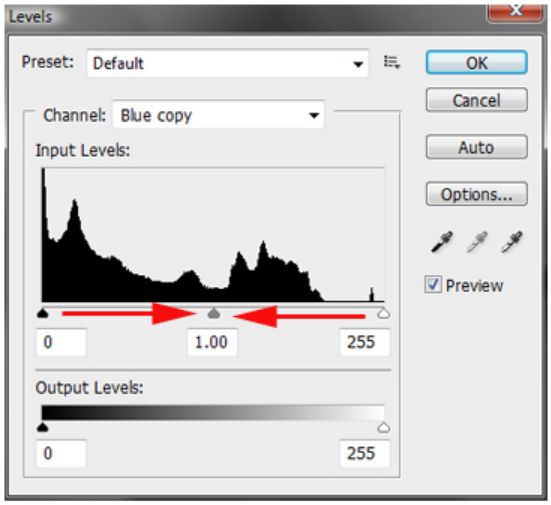


4. Click and drag the Blue channel down over top of the new channel icon at the bottom of the channels palette to create a new blue copy channel as shown below.

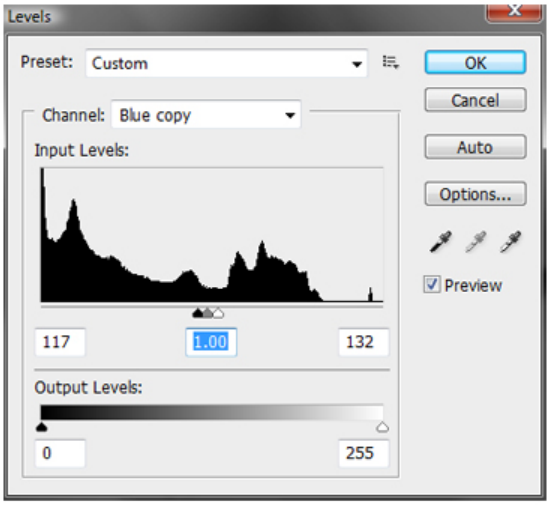


New Blue copy channel

5. In the next step make sure only the blue channel is selected as shown above. Select >Image adjustments >levels. And then move the shadow and highlight markers toward the center as shown below to compress the tones to only Black and white. The goal is to keep the sky region totally white and blacken everything else.



Start



End

This will reduce the tones to only black and white.

6. We need to fine tune the mask by painting over those regions on the building that are still white - only the sky should be white every thing else should be black. In the tools panel make sure the foreground colour is set to black. Select a paint brush - the diameter of the brush will vary depending on where you paint on the mask - start with about 55px diameter. Paint black over the bottom of the picture to hide any white regions on the foreground, building and roadway. As you approach the edges of the building make your brush smaller and continue to paint. See the image below and compare the channels before and after painting.

Before Painting Channel

After Painting Channel

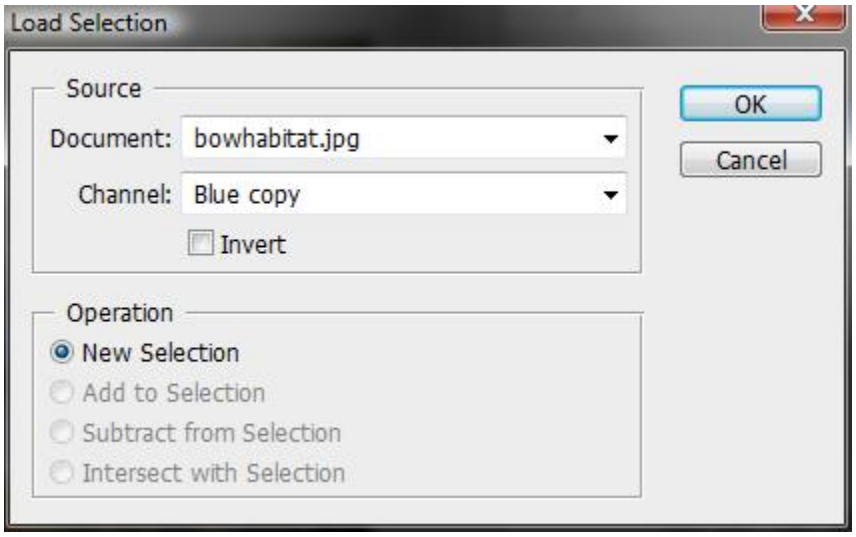
The reason we painted on the channel is that an alpha channel can be loaded as a selection. The white areas will be the selected regions and the black areas will be the protected or unselected regions. This allows us to make very precise selections and we only want the sky region to be "selected".

7. In the channels palette select the RGB layer a shown below. This returns you image to full colour.

You can edit the Blue copy channel anytime by selecting it, but for the next step we want to be in RGB mode. If you click on the Blue copy you will see a red mask appear over top of the image - if you see this - uncheck the eye icon next to the Blue copy - alpha channel as shown above.

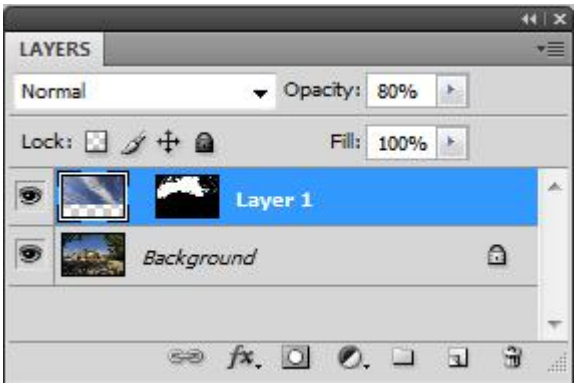
8 Open one of the sky pictures, I recommend starting with sky04.jpg to start with. The image should be of the same resolution and approximately the same size as the image you plan to paste the sky into.

9. With the sky04.jpg image open choose Select>select all> Edit>copy. Then switch over to view the bowhabitat.jpg picture and choose Select>Load Selection>Blue copy - which is the alpha channel we created. You will see the sky selected.



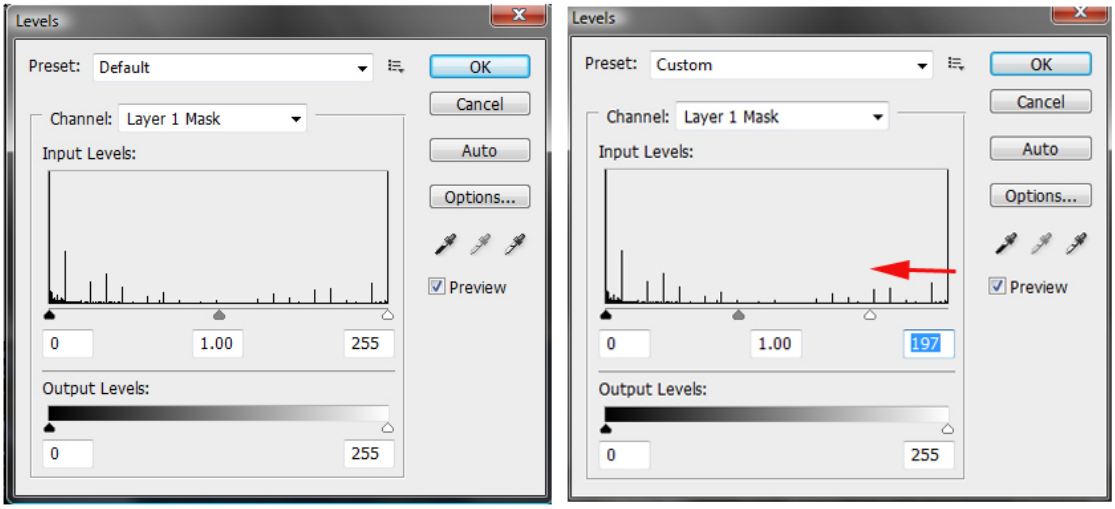
10. To make the edges of the selection blend in better we will feather the edges of the selection. The amount of feathering used varies generally getting bigger with higher resolution images. Select>Modify>Feather Radius > 0.5 pixels > OK.

11. Now with the selection showing on your picture - choose Edit>Paste into. You should see the new sky in your photo. You can resize the new sky by selecting Edit>Free Transform (or Ctrl-T) and with the move tool adjust the size and position of the sky.



In the layers palette you can vary the opacity of the top layer to make the sky blend better with your picture. In the top I have reduced opacity to about 80%.

12. One last step you can perform to make the edges of the trees blend into the sky and reduce any white halos that might still be present is to select the Layer 1 mask (click on it), then select Image>adjustments>levels. Drag the highlight level to the left. It's easier to see what is happening on your picture if you zoom into a section with leaves and sky. As you push the slider to the left any white halos that might be present are forced into the background. How much you move the slider will vary with different photos. In this photo the haloing around the leaves is minimal, but in other photos you may see considerably more.



Move the highlight slider on the right to the left as shown above.

13. Finally - flatten your layers in the layers palette and save your image.

Once you have the alpha channel you can load it anytime and paste in a new sky. If you want to keep the alpha channel with the photo you need to save the image as a Photoshop (.PSD) format.

There are a number of other sky photos you can try and there is also a picture of an old abandoned farm building you can try. This image is very difficult because the trees have very fine branches and no leaves, but with a bit of practice you should be able to produce a respectable result by adding a new sky.

Also next time you are out shooting if there doesn't seem to be anything exciting to photograph don't forget to take a few photos of the sky for your own collection.

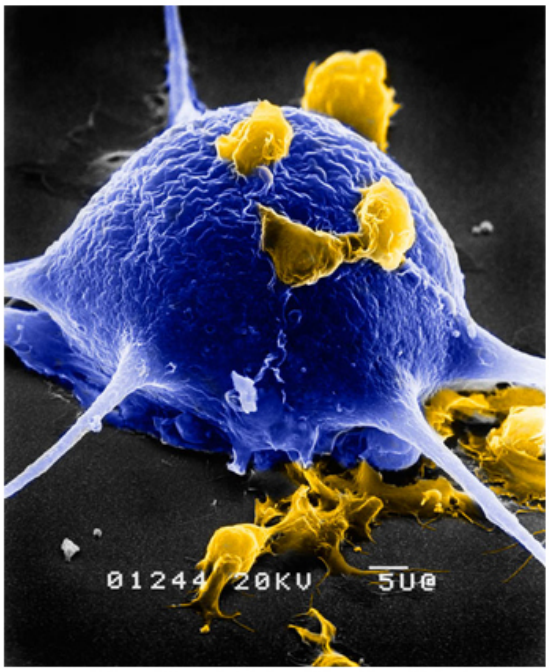
Old farm building with a new sky.

newsky.mov

3.3 Hand Colouring Black and White Images

Converting a colour image to black and white and then returning some of the original colour is one way to create a black and white image with selected colour. However, sometimes the original image is only available in Black and White and you want to add colour to it. Prior to working on images digitally I used to use Marshall's Photo Retouch oil paints applied with cotton swabs. Often it took several attempts and several prints before obtaining good results. With a digital file you can paint, back up, erase or paint over the colours as often as you like and have full control over the opacity of the paint. In this lesson we will take a black and white photo and hand colour it. I have used this technique with scanning electron micrographs which are always in Black and White, and also with old photographs that I have retouched.

Snail Neuron and Hemocytes



After Hand Colouring the Print

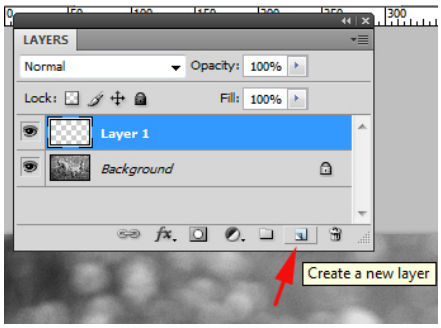
There are several black and white images in the folder called handcolouring you can try. For this lesson we will use the Black and White photo of baby foxes playing.

Black and White Photo

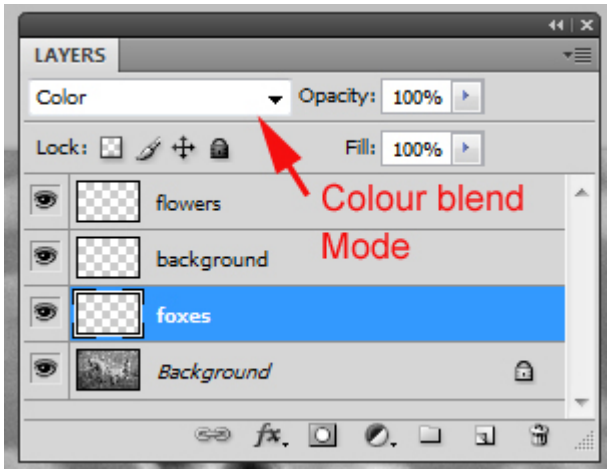
Hand Coloured Photo

1. Go to the folder called handcolouring and open the file picture18BW.jpg - a black and white photo of baby foxes.

2. Make sure the layers palette is open, if its not - select Window>Layers. From the bottom of the layers palette create 3 more layers by clicking on the new layer button at the bottom of the palette.



3. Double click on the text in the layers and rename the layers: foxes, background and flowers. The order of the layers and their names is not important.



Once you created and labeled the layers - change the blending mode on each new layer to **Colour.** Setting the blend mode to **Colour** makes the paint you apply appear translucent over the photo so you can see details below the paint.

4. To paint you need to select a layer, then select a colour and paint brush. You can select different colours from the tools panel (foreground colour palette) or you can open up the swatches panel Window>swatches and select a colour from the palette. Start by selecting an orange colour and paint on the foxes layer, adjusting the brush diameter as required. When you are finished painting on a layer you can also vary the opacity of the layer at the top of the layers palette.

5. Select the background layer and paint a green colour over the background. When you are done select a yellow colour and paint over the out of focus highlights - these are dandelions.

The finished picture might look something like the photo above - try some of the other images or one of your own.

Black and White portraits are suited to hand coloring - experiment with this technique to create new images from your photos.

handcolour.mov

3.4 Simulated Infrared Film

Images taken on infrared film in the past produced images with a dream like effect. Trees and grass appear white with a soft glow. Skies tend to be dark, almost black, which made any clouds pop. Infrared images are also characterized by excessive grain similar to shooting with very high ISO speed film. Shooting with real infrared film is quite challenging, you have to load the film in total darkness, you need to focus your camera manually then place a dark red filter in front of the lens. Exposure is based on trial and error and as light meter readings are useless. In 2007 Kodak stopped making Infrared film so infrared film is difficult to get today. The good news is that using Photoshop we can simulate the appearance of infrared film using any digital photo.

Some photographers still shoot BW infrared film because it has gained popularity in art, landscape and wedding photography. In order to simulate the infrared effect accurately it helps to look at images produced with infrared film - you can do this by searching the internet or visiting some galleries. There are many ways to simulate Infrared effect using Photoshop - the technique provided below is a mix of techniques I have learned from different sources. Feel free to experiment and modify the steps to achieve the results you want.

A typical infrared picture has dark skies and water (blue regions) while trees and grass reflect infrared light and are typically bright white with a soft glow. Generally infrared pictures are also very grainy in appearance.

1. Using Adobe Bridge navigate to the folder called infrared and open the file called GeorgianBay.jpg.

2. Open the layers palette and from the bottom adjustments icon (black\white circle) select Black and white adjustment layer. Set the red slider to about -93 to darken the sky and water, set Yellow and green filter sliders to about + 228 and blue to about -154 - see below.

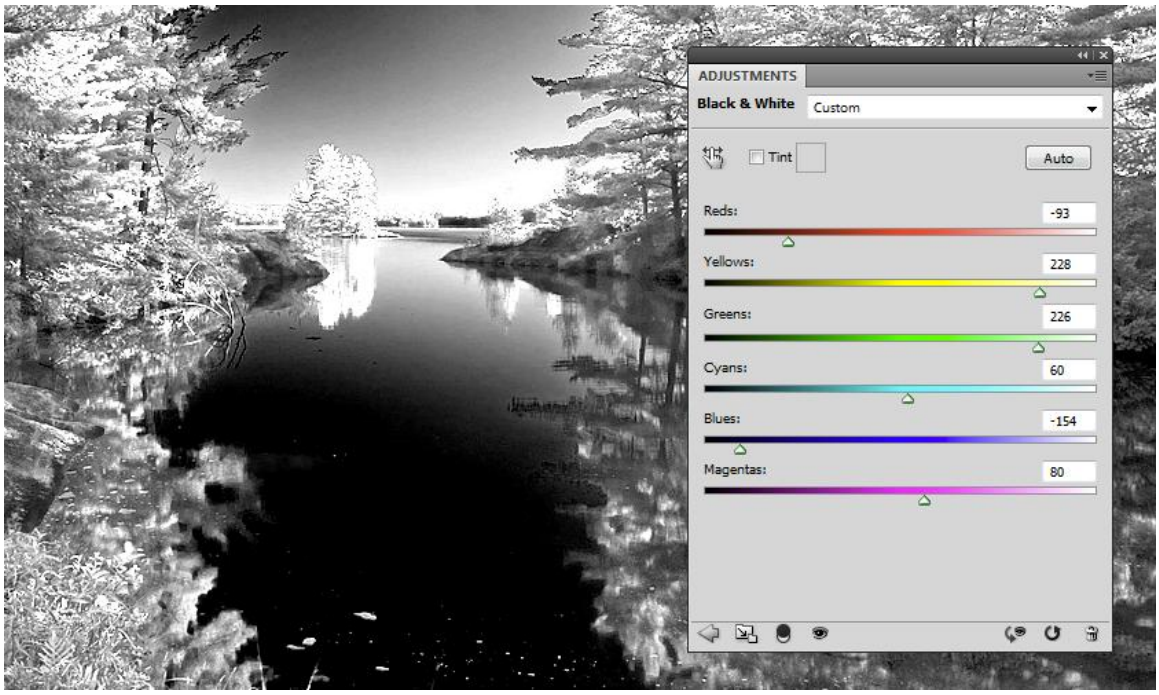
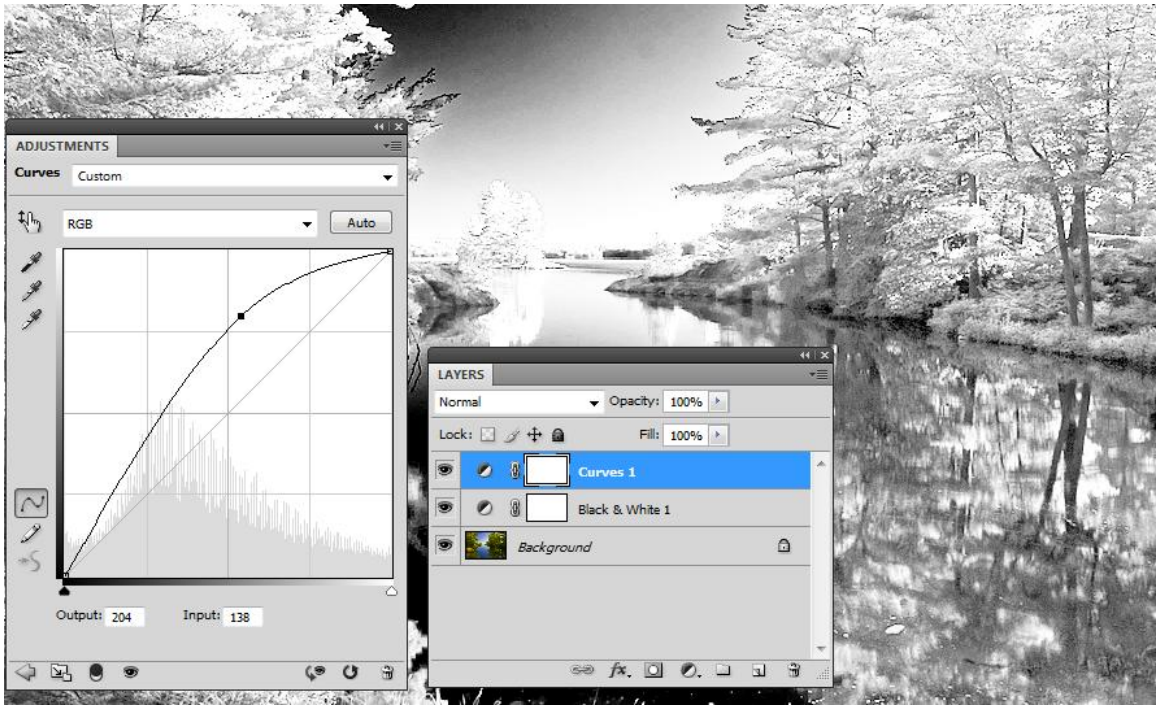


Image now simulates the tones in an infrared photo.

3. In the layers palette select the adjustments layer and add a curves adjustment layer above the BW adjustment layer. Crate a point and pull the curve up to brighten highlights as shown below.



Lift the curve up slightly to brighten the vegetation.

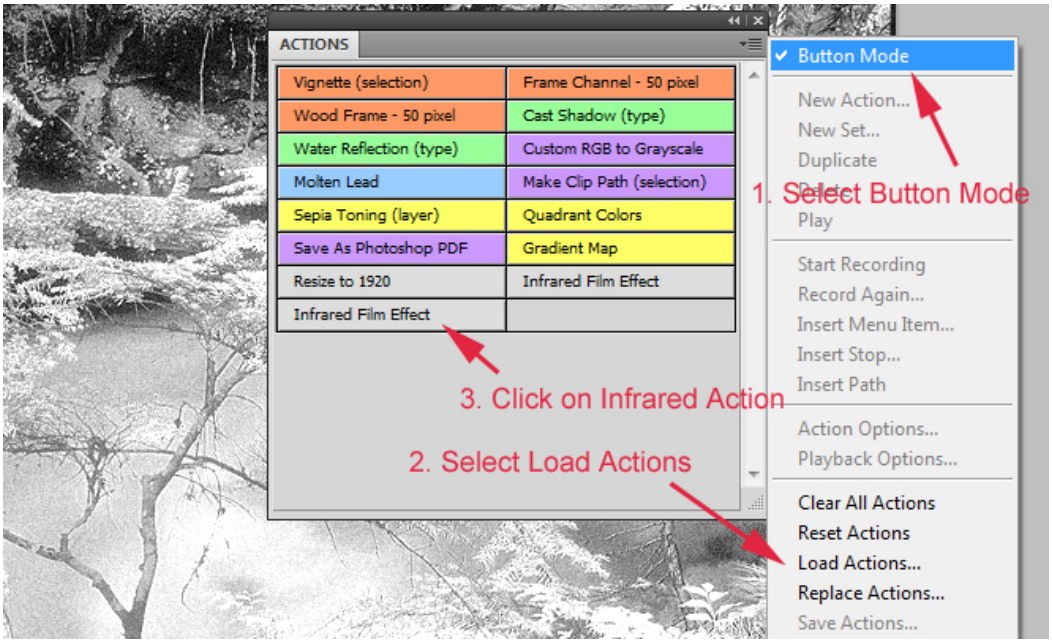
4. In the layers palette flatten the image so the adjustment layers are incorporated.

5. Select Filter > Distort>Diffuse Glow set Graininess to about 8, Glow Amount about 1, and Clear Amount to about 15.

Adding Diffuse Glow - there are no absolute values - vary the settings and look at the picture to achive the results you want.

6. Finally we will add a bit more grain to the picture, but again if you like the picture without the grain - you can omit this step. Select Filter>Noise>Add Noise choose distribution Gaussian, check monochromatic and set the Amount to about 5%. Nature photos that seem to work well with this technique are those that contain a lot of green shrubs and water.

Later you will learn how to create an action to record your steps so you can apply them quickly to any photo. You can also load other peoples actions and apply them to your images quickly and easily. Go to the folder infrared and open the file begibiecreek.jpg. Select windows>actions to open the actions palette. Select Button mode from the top right, then **Load actions** - navigate to the infrared folder and load the action called **infrared.atn**. Click on the newly formed Infrared Film effect button and watch it transform your picture. Try converting some of your own pictures into simulated infrared.



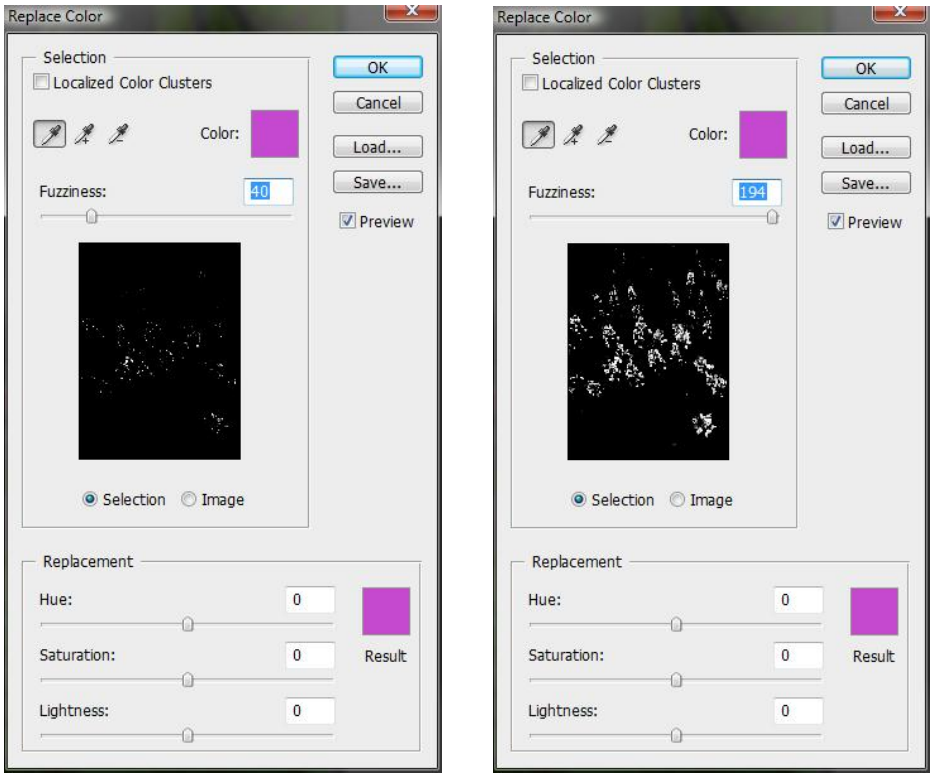
infrared.mov

3.5 Replace Colour Command

Photoshop provides an easy use tool to selectively change the colour of some component of your photo - it could be the colour of some ones clothing or a flower. In this lesson you will learn how to change the colour of fireweed flowers to another colour.

1. In Photoshop navigate to the folder called replace_colour and open the image file called fireweed.jpg.

2. Select Image>Adjustments>replace color. You will see the Replace color pop up menu.



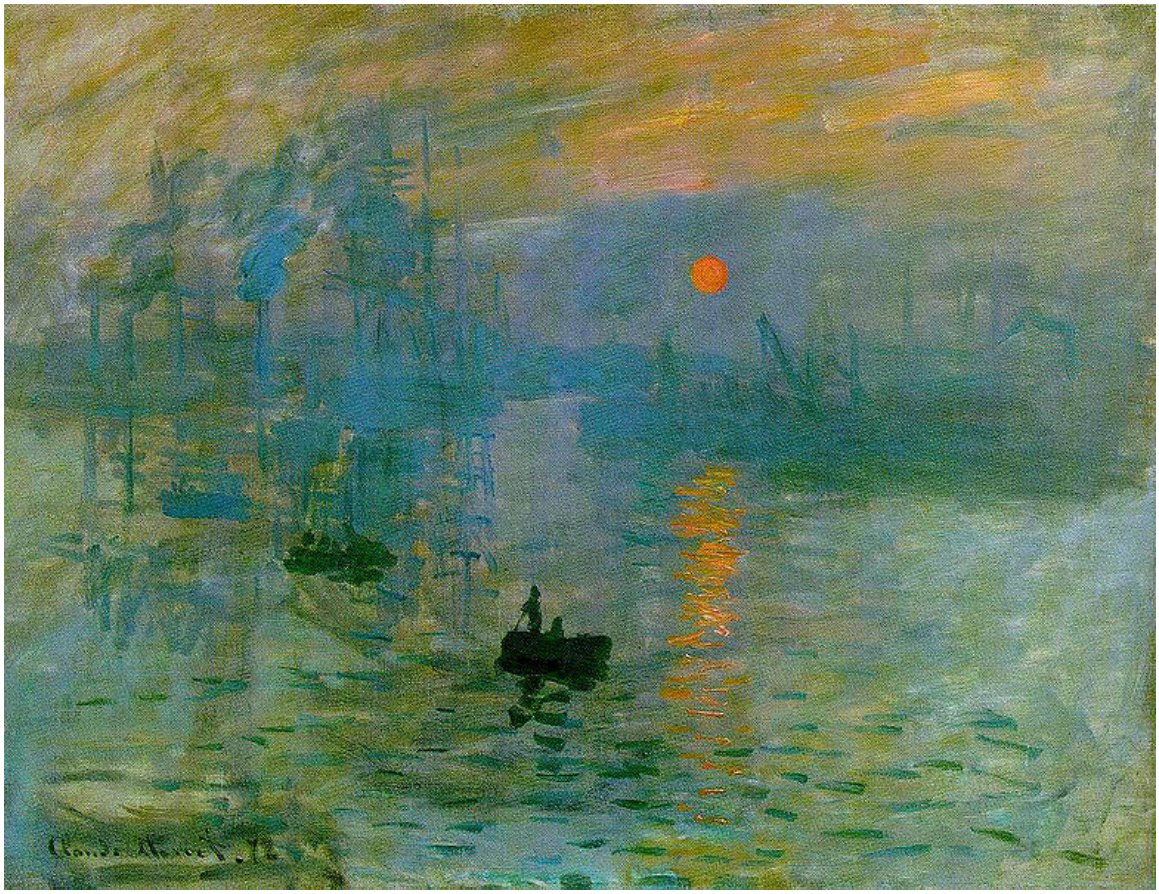
Replace Color pop up menu. On the right with fuzziness slider moved to 194.

3. The eyedropper tool on the top left should be selected - click over top of the fireweed flowers with the pink colour. Drag the fuzziness slider to the right to about a setting of 194. What the fuzziness slider does is select similar colours and expands your selection. You can use it to reduce or add regions to you selection. You can also use the (+) eyedropper and (-) eyedroppers to add or add or subtract additional regions of the photo that will be affected by the replace colour command.

4. To change the color of the flowers move the Hue slider to the right or left and watch how the colours in the flowers change. You can click on the Result box beside the Hue slider and select whatever colour you would like to use for the replacement. Move the Saturation and Lightness sliders to modify these parameters and watch the affect on your coloured flowers.

replacecolour.mov

3.6 Create Impressionistic Images – Digital Ortons



Painting by Claude Monet April 1873 - Impression, Sunrise
(Image from Wikipedia and is in the public domain)

Impressionism first referred to a style of painting originating in France around 1870's and was characterized by the use of unmixed primary colors and small strokes to simulate reflected light. The objective of the style was to attempt to capture the subjective impression of light in a scene.
A similar effect can be achieved in photography by combining two images to form a slide sandwich, where one image is over exposed by 2 F-stops and sharp and the other is over exposed by 1-Fstop and out of focus or blurred. This technique was first described by Michael Orton in 1992 and 1994[1]. After I experimented with this technique using slide film I found that you need to shoot quite a bit of film to

achieve ideal results. Around 1994 I experimented with procedures to simulate Orton impressionistic imagery using layers in Adobe Photoshop (so have many others). The advantage of using a computer and image editing program is that the effects of any type of manipulation on the image can be seen instantly, each procedure can be controlled precisely, and one only needs to start with a single properly exposed image – a scanned slide, negative or digital file. Below I describe a procedure used to create "Digital Ortons" using Photoshop. The procedure seems to work best with images that have fine detail and overcast lighting.

Digital Orton Procedure

1. Go to the folder Orton and open the image goldstream.jpg.

2. Select Window>Layers to open the layers palette.

3. In the layers palette select the first layer with your mouse pointer and duplicate the layer (right click and select duplicate from the pop up box or press Ctrl-J. Unselect the eye on the top layer so its not visible.

4. Select the bottom layer, then select Image>Adjustments>Brightness and Contrast and adjust the brightness to +100 to simulate about a 2 F-stop over exposure. (Alternatively could use the levels or the exposure control to brighten the image in order to simulate about 2 F-stops overexposure).

5. Select the eye icon on the top layer to turn it back on. Select the top layer, set opacity to about 50% and set the blending mode to **Multiply.** Then select Filter>Blur>Guassion blur and start with values between +5 to +30 – the amount of blur you add is a personal decision and will also depend on the resolution of the image, but you can see the effects instantly on your screen. The more blur you add the larger the glow will be – experiment with varying amounts.

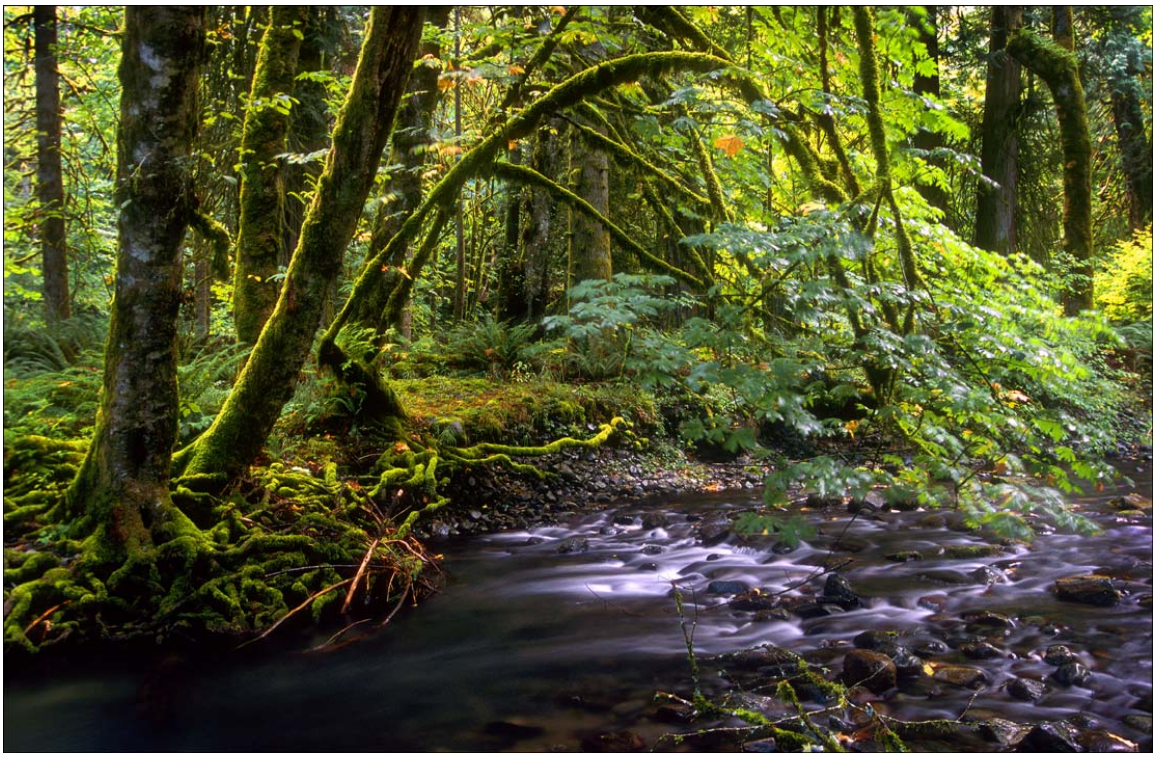
6. With the top layer selected, re-adjust the opacity slider in the layers palette to obtain the desired image density; good values appear to be between 60 to 80% (make sure you have layer 2 selected when you do this).

7. Flatten the image - select the right arrow on the top right of the layers palette and from the pop up side menu select flatten image.

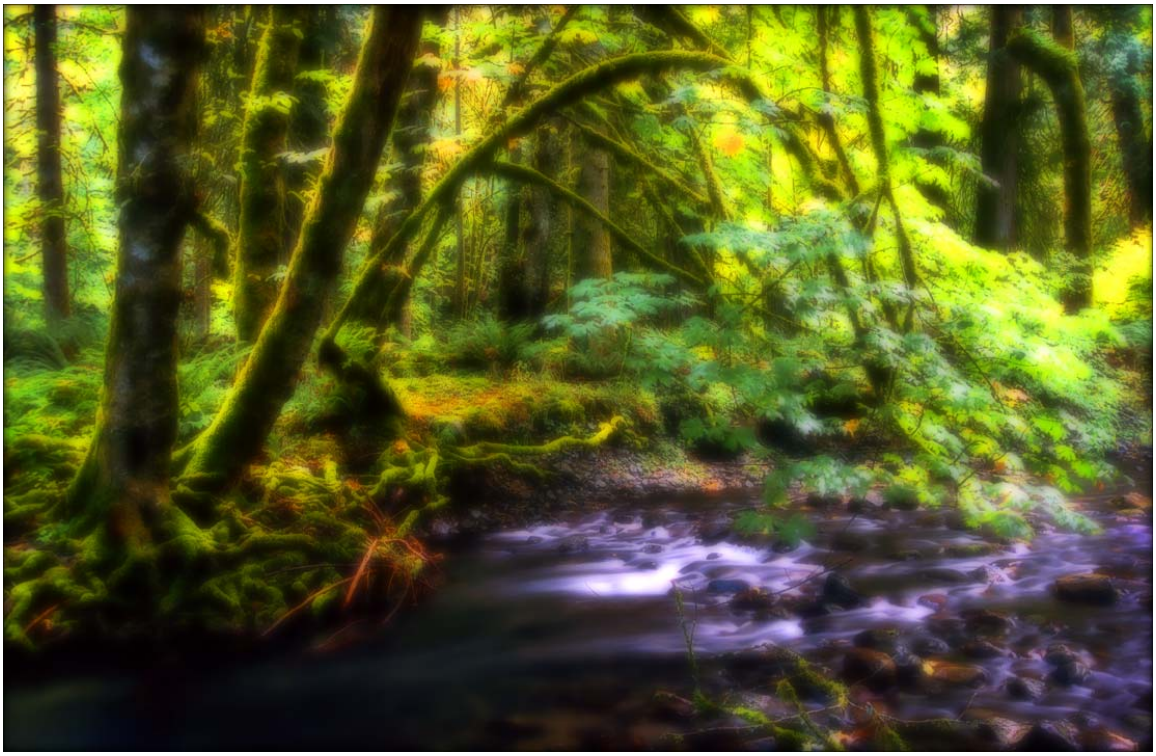
8. Select Image>adjustments>levels – optimize the overall brightness of the image, then select Image>adjustments>Hue & Saturation and increase the saturation about +10 to +30 to obtain the amount of color saturation you desire. Finally select Filter>Sharpen>Unsharp mask and apply a little bit of sharpening.

You can experiment with different blending modes (multiply, soft light, hard light, color burn etc), adding Gaussian blur to the bottom layer, adjusting levels instead of brightness, taking the blurred layer and scaling its dimensions larger to more closely simulate out of focus effect in the camera. Credit and inspiration for developing the Digital Orton technique using film is owed to Michael Orton[1] hence the name "Digital Ortons". Experiment with different images until you find ones that work best for you and have fun playing with the possibilities.

Note: in the actions folder I have placed a simple action called **DigitalOrtonRB.atn** that can be loaded into the actions palette and it will automatically apply the steps above to your images. Generally it is better if you do the steps manually so you can vary the parameters and make adjustments for each image. For example you might want to apply different amounts of Gaussian blurr - but you can load the action and apply it quickly to different images to determine which images might be good to apply this technique to. There are several other Orton actions available on the web, load and experiment with them. http://www.atncentral.com is a web site that provides additional free Photoshop actions.



Initial Image taken in Goldstream Provincial park, Vancouver Island, BC

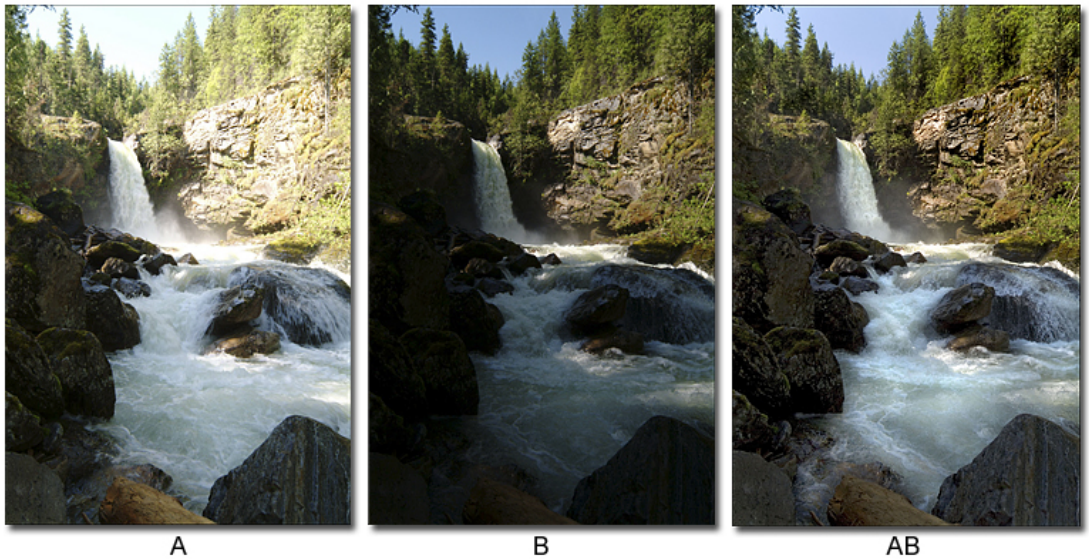


Digital Orton – image after using procedure described above - note how the leaves glow.

orton.mov

3.7 Combine Two Different Exposures to Increase Dynamic Range

Dynamic range in photography describes the ratio between the maximum and minimum measurable light intensities (white and black, respectively).. The wider the dynamic range the more tones that can be captured or displayed in an image. Dynamic range is influenced by the lighting, on a Sunny day the there can 12-15 F-stops difference in exposure between the shadows and highlights. On an overcast day their may only be 4-5 F-stops difference. The problem is when the dynamic range is too large we need to make comprises and usually we expose the picture so we do not over-expose the highlights and the result is a loss of detail in the shadow regions which become solid black. The dynamic range of slide film was very limited about 5.5 to 6 F-stops. Digital cameras have a dynamic range of about 8.5 F-stops for .JPG files and about 10 F-stops for RAW files. However, we can expand the range even further by combining two exposures of the same scene, usually one picture taken 1-2 EV under exposed and 1-2 EV overexposed. (EV is equivalent to one full shutter speed or F-stop). In nature, trying to photograph in a forest or canyon on a sunny day can be very challenging because of the wide dynamic range - combining several photos can help reduce the range. In order to combine two exposures of the same image a tripod is a necessity so that both images overlap precisely.



A B AB

The photo on the left was overexposed 1 F-stop and the one in the middle underexposed 1 F-stop and the two images combined to form a blended image AB with better shadow and highlight detail and greater dynamic range.

1. We will combine two photos of a waterfall taken on a sunny day. In Photoshop go to the folder multiple_exposure and open both the A.jpg and B.jpg images of the waterfalls. Drag the darker image B.jpg overtop of the lighter image B.jpg and align them . To help line up the images you can change the blending mode to **Difference** mode or reduce the opacity of the top layer - if the images are not lined up you will see white areas in Difference mode, but be sure to change the blend mode back to normal in the top layer and opacity back to 100% when you are finished.

2. Shift-click on the layers palette and select both layers>convert to smart object (it is possible to combine more then two layers if you have several bracketed exposures).

3. Choose>Layer>smart objects>stack>Mean (can also try Median). This will combine the images and increase the overall dynamic range and it will reduce the overall noise in the image.

combine2images.mov

3.8 Using an Action to Combine two Photos to Increase Dynamic Range

Actions are a series of steps that can be saved (e.g. **filename.atn)** and they can be loaded into the actions palette and replayed. We will cover how to create your own actions later. In this lesson we are going to load the action DRIv2.6.atn created by Fred Miranda. A pro-version plugin that works with 16 bit images can be downloaded for a reasonable cost from www.fredmiranda.com. The action is in the folder called Multiple_exposure along with a text file of instructions.

1. In Photoshop open up the images A.jpg and B.jpg (you can try the action on several examples in the folder it only takes a few seconds to accomplish).

2. Drag the darker image A.jpg over top of B.jpg and line them up as before so they are exactly on top of each other. You can select **Difference** blend mode in the layers palette to facilitate this or simply reduce the opacity of the top layer so you can see the layer below. When you are done return the blend mode back to normal.

3. Open the actions palette Window>actions and from the top right of the panel select button mode as shown on page 42. Then from the pop up menu on the actions palette select load selection and navigate to the folder called Multiple exposure and select the DRI_v2.6.atn file to load it as a button.

4. In the actions palette select the button >DRI and it will instantly combine and blend the images for you to expand the dynamic range. Repeat the steps above and combine the darkA.jpg and darkB.jpg to produce an image darkAB.jpg. This technique is ideally suited to photographing interiors with windows with two exposures so the result is that you can see both the inside and outside. Once you combine the images you may still need to improve the final image through dodging, burning or adjusting the overall levels to get the best picture.

There are several programs that are dedicated to blending images to expand dynamic range. One of these is Photomatrix which offers a free version for 8 bit images you can download off their web site at: http://www.hdrsoft.com.

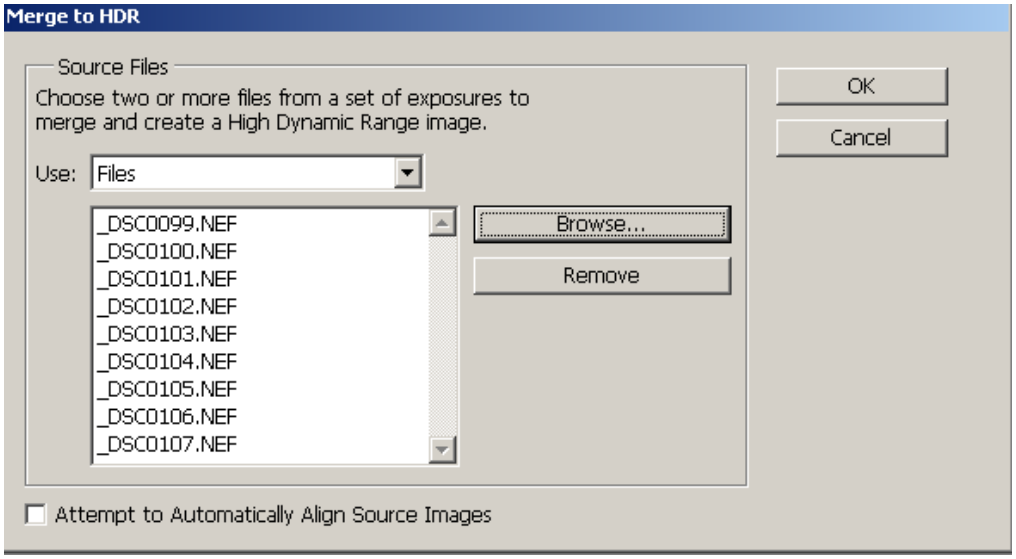
blendwithaction.mov

3.9 Merge to High Dynamic Range (HDR)

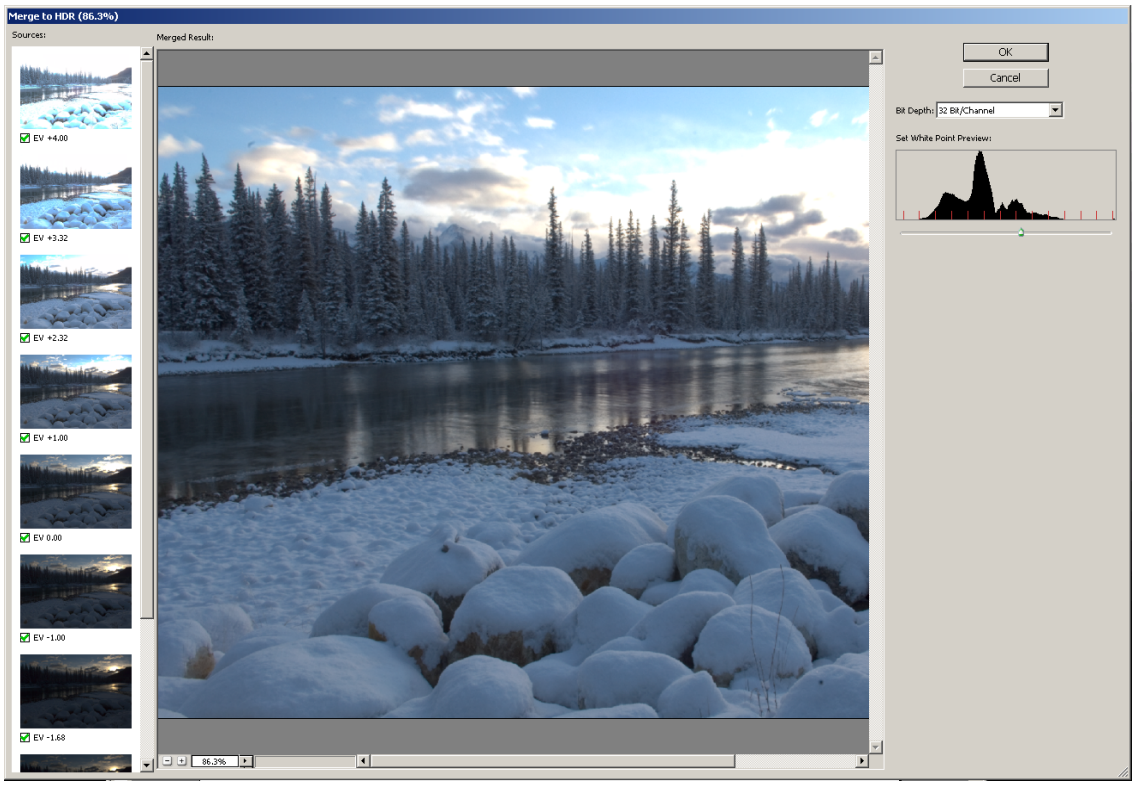
Merge to HDR (high dynamic range) involves taking several shots of the same scene using a camera mounted on a tripod and varying the exposures. For example you might set your camera EV to -4, -3, -2, -1, 0, + 1, +2, +3, +4, F-stops to create a series of 9 exposures from the same spot bracketing in full 1 F-stop values. Often you don't need this many shots - 3 shots taken at -2 EV, O EV and +2 EV brackets may be enough. HDR imaging is used when you have a very large dynamic range in lighting. Once you combine the image into a 32 bit image, the picture will look very flat because the monitor can not properly display 32 bit images so you will need to reduce the file to 16 bit (Tone mapping) to further edit the image then to drop it to 8 bit for printing. The technique works with both .JPG and RAW files, RAW files being better and Photoshop uses the EXIF (exchange information format data in the RAW file to determine the exposures used). If you combine several RAW files beware that you need a fair bit of computer power and random access memory. If you computer has limited memory use only three images 02,03 and 04. If you use the JPG images in the folder you may see red spots appear on the final image caused by digital noise.

1. Choose File>Automate>Merge to HDR or in Bridge choose Tools>Photoshop>Merge to HDR (jump to step 3 if using Bridge)

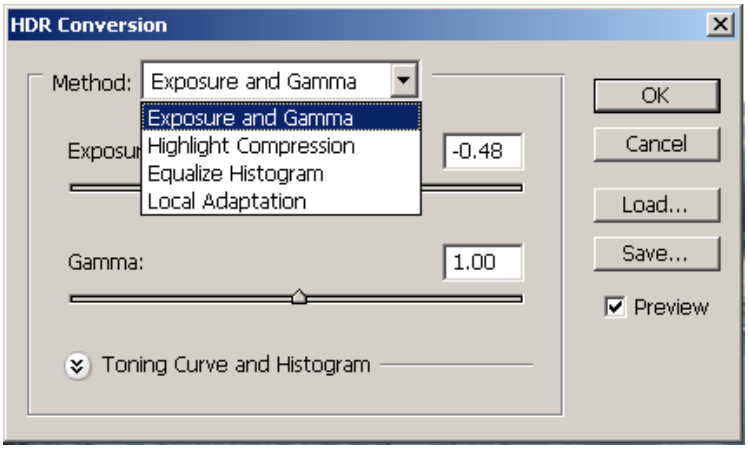
2. In the Merge to HDR dialog box, click Browse, select the numbered RAW images and click OK - depending on the size of the image files you may have to wait several minutes or more while the image is being processed. Combining RAW files takes a lot of computer memory so you need to be patient, or you can go into Adobe Camera RAW open a single RAW file and reduce the size of the RAW file that is imported (Described in Photoshop I workshop) and then try HDR imaging again. For the online section of the workshop on the .JPG files are provided as the RAW files take up more then 170 MB of space. When you combine .JPG files (Select Castle01.jpg to Castle09.jpg) - you will some red spots or artifacts in the resultant picture due to digital noise- but the process will go much faster.



3. Click OK again when you see the menu with each image on the left and the main window with the full 32 bit dynamic range photo. Note this image will appear flat because it exceeds the display capabilities of most monitors and will generally not look very good.



4. To convert from 32 bit to 16 bit Select Image>mode>16 bit and you will see the following pop up menu. This procedure is called Tone mapping.



5. You have several controls you can choose from when converting from 32 bit to 16 bit. Which one you select will vary with different images, some are automatic, some give you some additional controls.

Exposure and Gamma – let you manually adjust brightness and contrast of the HDR image

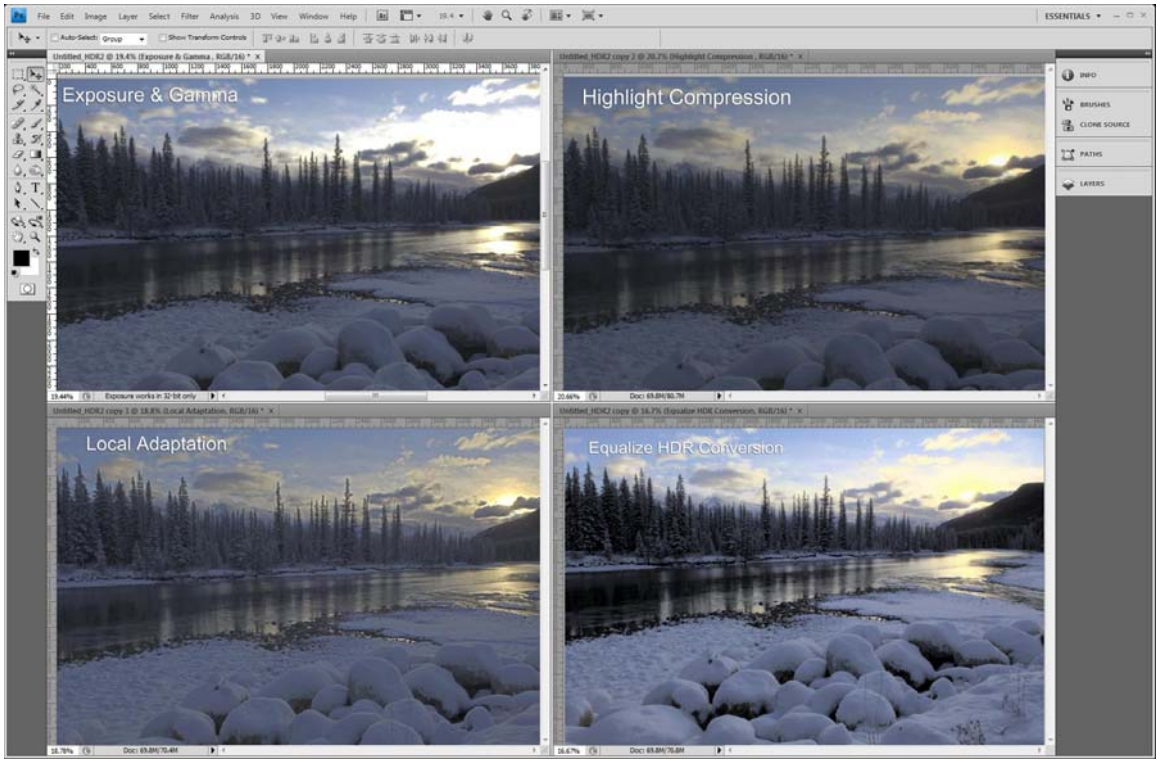
Highlight Compression - compresses the highlight values in the HDR images so they fall within the luminance values range of 8 or 16 bits per channel image file. No further image adjustments are necessary; this method is automatic.

Equalize Histogram - compress the dynamic range of the HDR image while trying to preserve some contrast – no further adjustments are necessary.

Local Adaptation – Adjusts the tonality of the HDR image by calculating the amount of correction necessary for local brightness regions throughout the image.

Optional Click the arrow to view Toning Curve and Histogram

Below I created the HDR image and then converted the images using all four conversion methods. For this particular sequence I recommend you select **Equalize HDR** which seems to do the best job.



The resulting image may be too still be too dark or light and will need further adjustments. Start with the optimizing the levels, then increase the saturation, use your highlight and shadow control and or burn and dodge where necessary.

Use a basic workflow 1) adjust tonal levels. 2) Boost the Hue & Saturation.3) Adjust shadow\highlights 4) Burn & Dodge 5) Use unsharp Mask -6) Change the image to 8 bit mode Image > Mode> 8 bits per channel and save file as a .TIF file.

HDR imaging is a relatively new technique but gaining in popularity. There are entire books dealing with the subject see references. In the example used for this tutorial I had tried to use a grad filter to darken the sky first but it failed to reduce the light reflecting off the river which acted like a mirror. Using HDR imaging was the only solution to capturing such a high dynamic range. In many cases you may only need 2 or 3 images, one shot at -2EV, 0 and +2 EV. EV exposure value is equivalent to one F-stop or shutter speed, it's best to compensate exposure using shutter speed or you camera's EV compensation button so the depth of field remains constant.

Depending on how you process your HDR image it can look natural or surreal with halos around edges and the sky may be much darker then we are used to seeing - again its a matter of personal taste. I aim to create photos that have impact but still look natural so I try to avoid images with halos or where the shadows look unnaturally light.

Final image using Equalize HDR option on conversion, auto colour, and shadow-highlight adjustments.

See Reference section for some suggested books on HDR imaging or search the web for more examples.


hdr.mov

4.0 Create Custom Actions

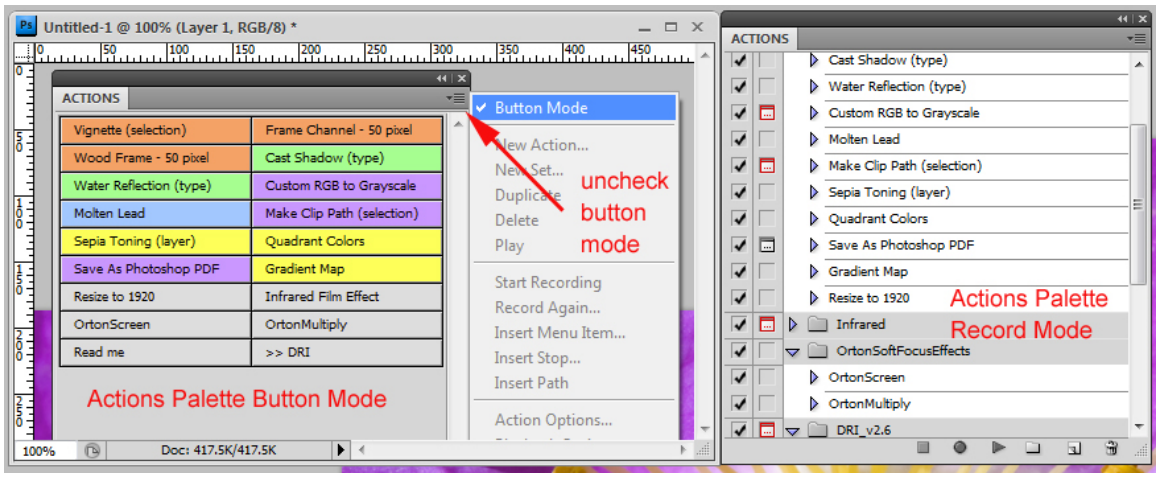
When we work with images where we apply the same changes numerous times, we can save time by creating a custom action. I often use actions to create thumbnails for web pages. Essentially to create an action you give it a name and record the steps, then stop the action and it will be stored. Select your next image and click on the button with your new action and it will repeat the steps. You have already loaded actions that other photographers have created, now we will create our own.

We are going to create a simple action where we take an image resize it, add a border around it, then convert it to BW.

1. In Photoshop select the folder called Actions and open the file called flower.jpg.

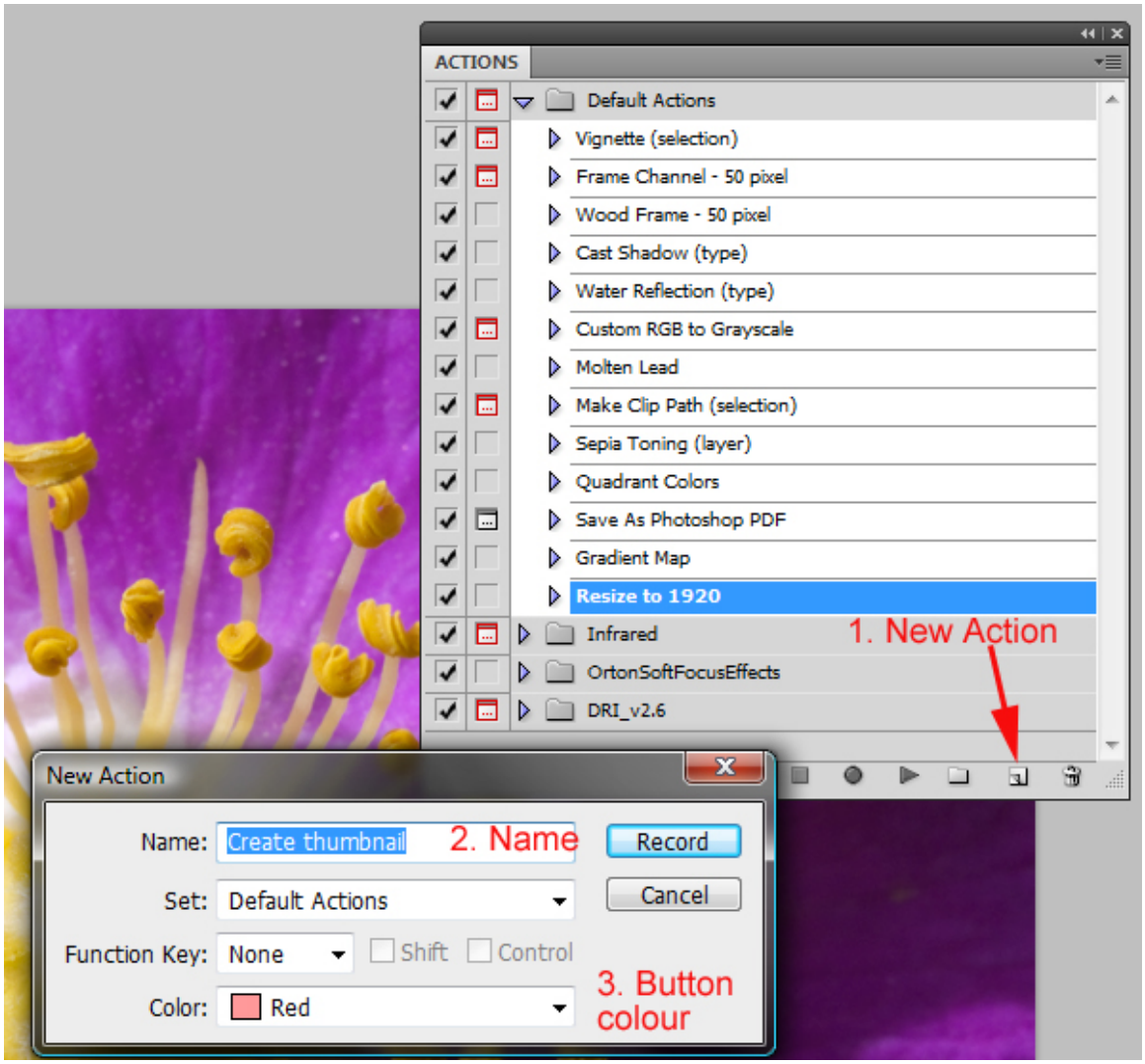
2. Select Windows>Actions to open the actions palette.

3. If your actions palette displays buttons we need to change the view to record mode - select the pop out menu at the top right and uncheck Button mode (see picture below).



Actions Palette - on the left showing Button Mode and on the right showing Record Mode

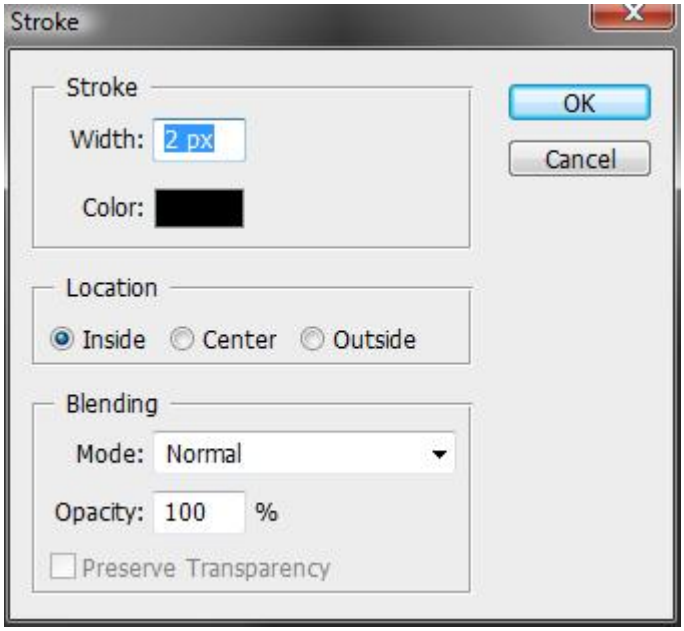
4. In the Actions palette actions are stored in groups or folders - select the Default Actions folder at the top of the Palette so the new action we create will be stored inside this folder. You can create a new folder if you want to store your actions elsewhere, but we will keep it simple for now. At the bottom of the Actions palette Click on the icon left of the garbage can - to create a new action. Name the action "Create thumbnail" and if you want you can select a colour for the button created.



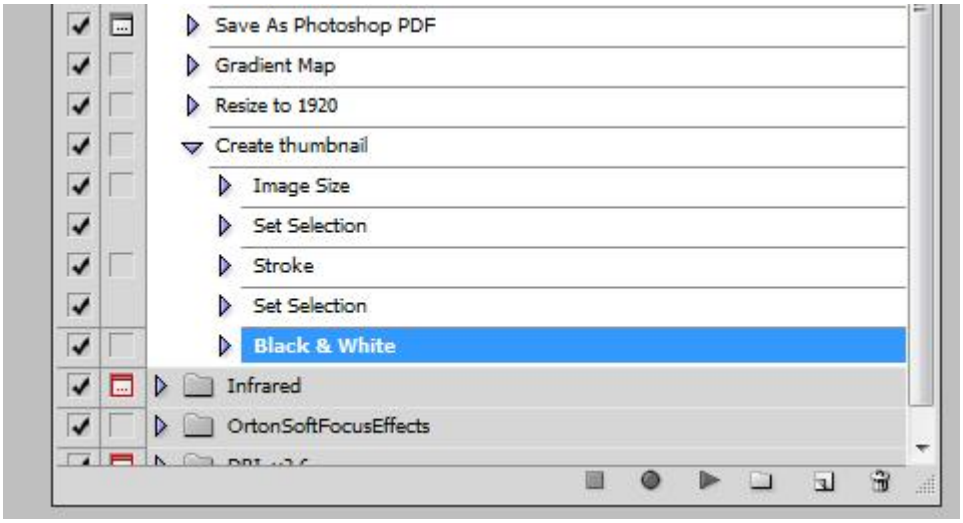
5. When you click record - everything you do in Photoshop will be recorded and stored in an action until you click the stop button (square icon at the bottom of the actions palette). Click the record button.

6. Select Image>size set the width to 150 pixels>OK

7. Choose Select>all to put a marquee selection around the image - Select Edit>stroke and in the box select 2 px - colour black, location, inside, blending mode normal>OK. Then Select>deselect (Ctrl-D) to remove the marquee selection.

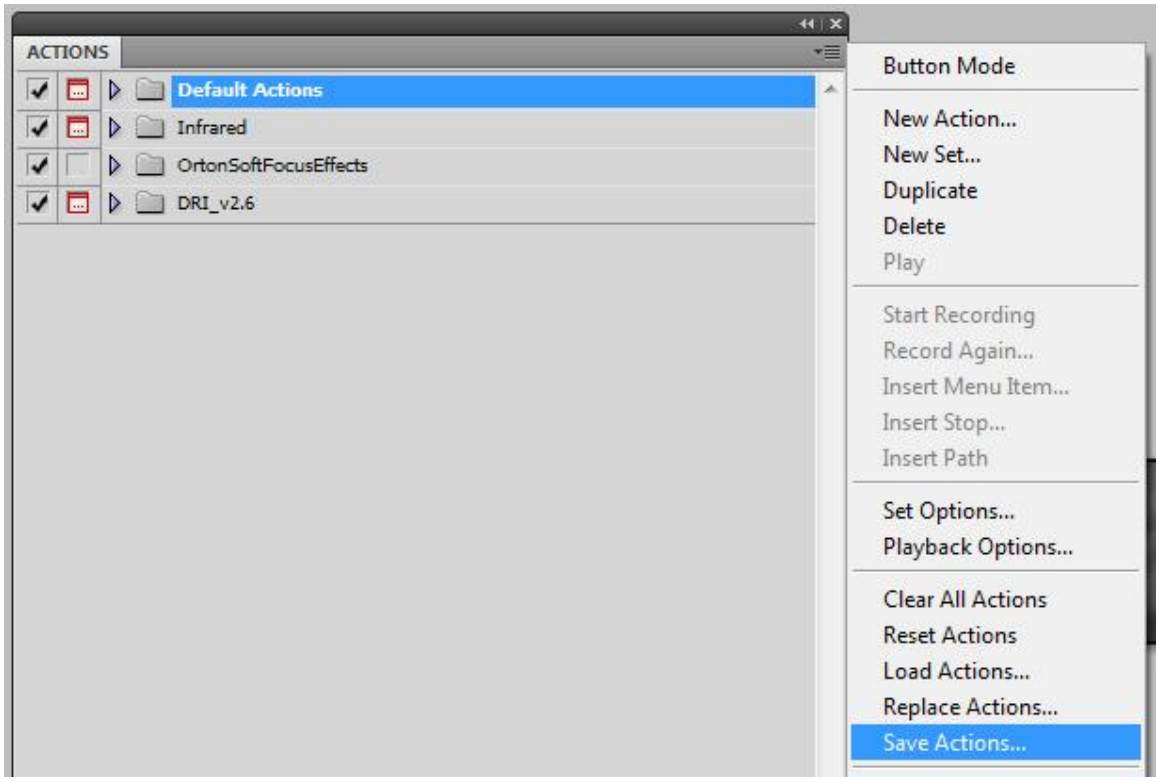


8. Choose Image>Adjustments>Black and White - leave the default settings and select OK - Click on the stop action - and you will have the action appear in the palette. You can view each step in your action or anyone's action by expanding the action (click on the right pointing blue triangle).



9. Open the image called flower2.jpg - and to play the action you simply click on the play button at the bottom of the Action palette or switch back to button mode and click on the button "Create thumbnail". In a few seconds it will convert the flower2.jpg image into a black and white thumbnail. Actions can be simple or contain many steps, and they can potentially save you lots of time.

10. To save an action, the actions palette must be in record mode, select the top folder Default actions - then click on the pop out menu at the top right of the actions palette.



11. Save as defaultactions.atn. If you don't want to include all the other actions you can create a new folder by selecting the new folder icon at the bottom of the actions palette and then drag the new action you created overtop of this folder to place it inside - then select Save this action. All actions will have a **some_filename.atn** to identify them. You can email them or make them available on the web for downloading. There are many web sites where you can download free photoshop actions.

You can also export actions as droplets - these are executable programs that you can drop your file or folder onto and they will automatically execute the actions in Photoshop (you must have Photoshop on the computer in order to operate these droplets). To do this Select File>Automate>Create Droplet and fill out the boxes. I personally don't find droplets very useful. To process numerous files I prefer to create Batch scripts which can open files in a folder, process the images and then save the files. Batch scripts are particularly useful when you need to resize hundreds of images within a folder. You will learn how to do this in the next lesson.


actions.mov

4.1 Batch Processing Files

Creating a batch script can save you a lot of time. If you have ever had to process several hundred images you will appreciate this time savings. For instance I took a series of 550 - 21 Mega pixel images of the Aurora to create a time lapse movie using a Canon 5D Mark II camera. To my surprise when I tried to import the images into Adobe Premiere or Apple QuickTime - it was not able to accept such large files so I needed to resize each image to 1920 x 1080 pixels in order to import them and create the time lapse movie. The steps to create a batch script can be used and applied to any folder of images you might have. In this exercise we will take 16 images and create smaller thumbnails from them using a batch script.

1. Create a new empty folder that will be your destination folder and call it Thumbs175 - this can be on your desktop or within the Photoshop II folder.

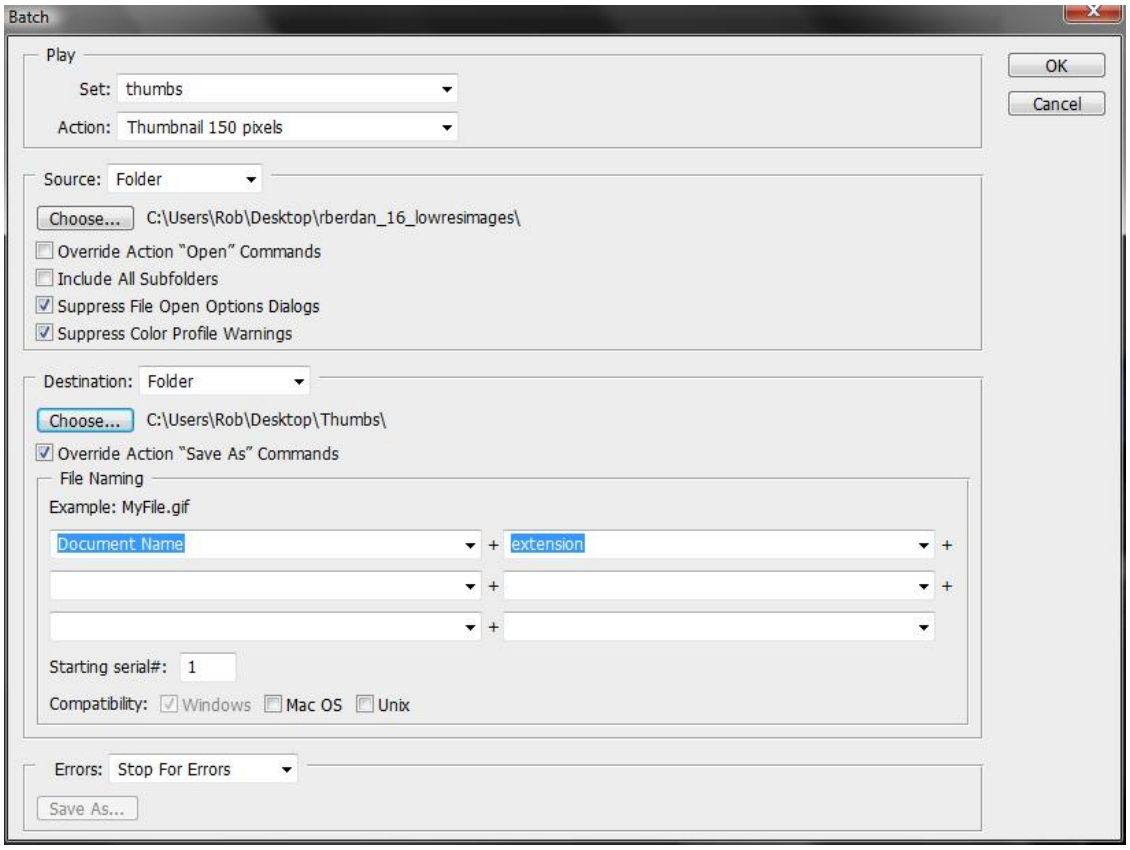
2. In Photoshop Select the folder called rberdan_16_lowresimages and open one of the images - anyone one will do (e.g. rberdan_winter.jpg).

3. Choose Window>Actions and at the bottom of the layers palette - Create a New set (folder) call it Resize. Then create new action in this set - call it Thumbnail 175 pixels> Record - Select Image>size and set the width of the thumbnail to 175 pixels. Then select save for web, select .JPG file and maximum quality>Save the image into a folder you created called Thumbs. Stop the recording.

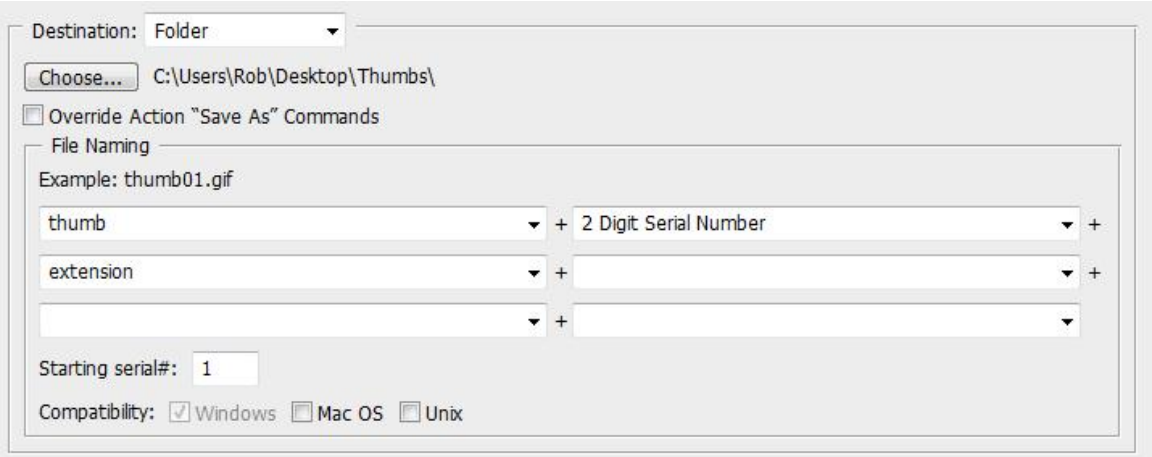
4. Now that you have created an action you could simply open each image and apply the action and if you only had 16 or 20 images that may be the best way to create your thumbnails, but when you have hundreds of images there is a faster way! First go to the folder you called Thumbs and delete the file you just saved in there.

5. In Photoshop Choose > File>Automate>Batch - in the Batch window select the Source folder by clicking on Choose and select the folder rberdan_16_lowresimages. Leave the other checkboxes in the source at their default settings i.e. check Suppress File Open Options Dialogs and check Suppress Color Profile Warnings.

6. In the Destination Section of the Batch window select Destination folder - Choose > select the folder you created called Thumbs and make sure the Override Actions "Save As" Commands is checked.



In the File Name box - there are options to change the file name, add numbers and an extension - in order to use the rename feature you must unselect Override Action "Save As" Commands. When using these settings Photoshop makes two thumbnail images one with the original name and another one with the modified file name e.g. thumb01.jpg. For this lesson lets just leave these renaming options alone for now and you can experiment with them on your own.



Box settings if you were going to rename the new images - otherwise leave as shown above

To start the Batch press click Ok and watch Photoshop do the work for you it will quickly open and save your thumbnail images into the folder you designated. A process that might take several hours can now be accomplished in only a few minutes.

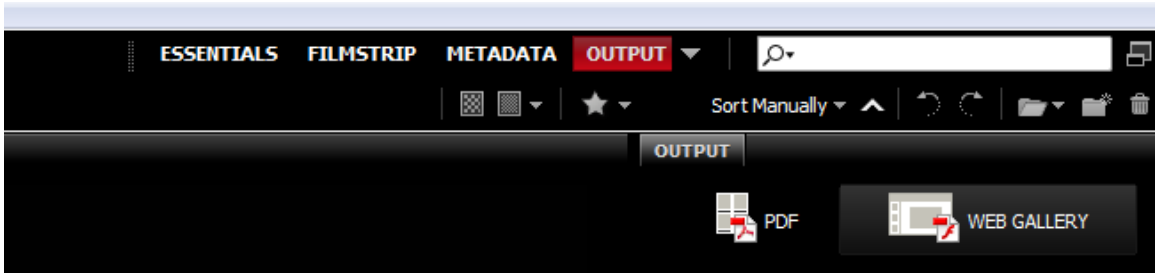
batch.mov

4.2 Creating Web Galleries

Photoshop CS4 offers a feature in Adobe Bridge that will automatically take images from a folder resize them to specified dimensions and create thumbnails with links to the larger previews. While this can be done manually, the process of creating web galleries can be quite time consuming and costly for the customer. One way to speed things up is to use one of Adobe's template galleries – which can convert hours of work into minutes. The user must still provide links to the finished web galleries and upload all the files to the clients server so some knowledge of HTML and working with web pages is very helpful.

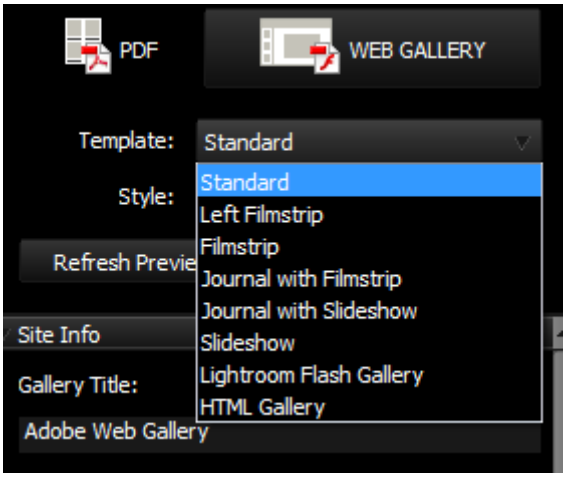
1. Open Photoshop CS4 and select>File Browse in Bridge or click on the Bridge icon at the top of the menu bar.

2. In Bridge select Output Option at the top right.

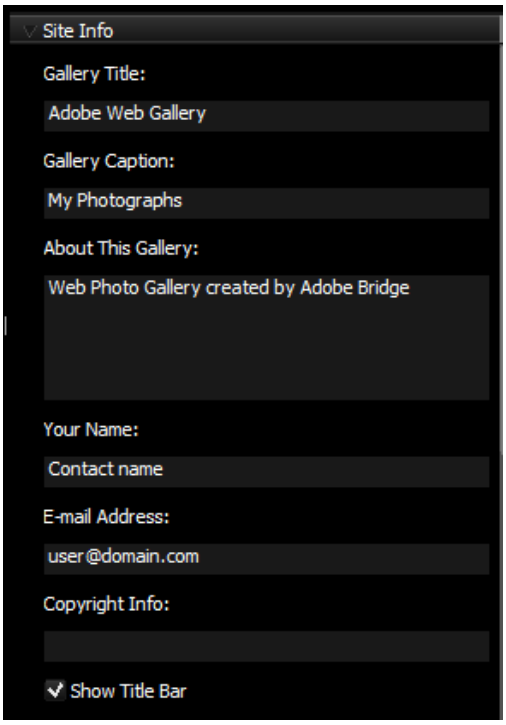


3. Select the WEB GALLERY button to view the options. You should also have navigated to your folder using the left Folders button in Bridge and you should see thumbnails of your images at the bottom of the screen. Shift click on the thumb images at the bottom of the window to select the images you want to include in your web gallery.

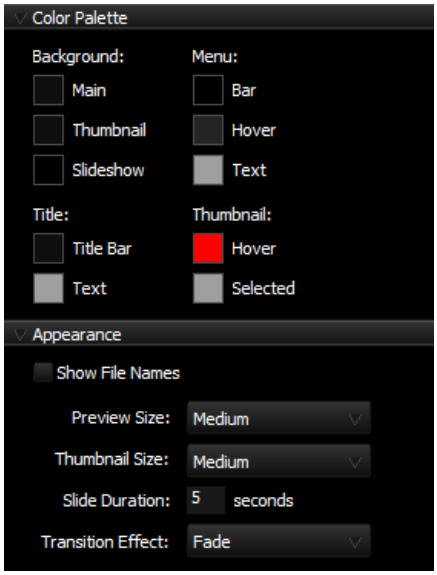
4. Select the Template Drop Down menu to see the different types of web galleries Photoshop CS4 creates. The best way to see what each of these galleries templates looks like is to create one gallery using each of them and test them to see which is best for you or your client.



5. Open the Site info palette below – and view your options. Fill out those boxes you think are most suitable or experiment to see where the text appears on your web pages. Place your own email or that of your clients in the Email Address: text box.



6. Expand the Color Palette box. This palette controls the background color, text and hyperlink colors. It also controls the slide show created if the template uses flash animation and you can select different image and thumbnail sizes.



7. Finally the last palette – Create Gallery gives you options to name the Gallery and save the files to disk in a specified folder. Select Browse to select the folder where you want to save your files. The other information is to transfer your files via FTP (file transfer protocol) to your server. I recommend looking at the finished Gallery first and then using a dedicated FTP program to upload your files (e.g. WS_FTP_LE). Once you find a web template and settings you like – record the settings for the next time. To view your galleries you will need to go into the folder where the gallery was saved and double click on the web page (index.html) created to view the galleries in your browser.

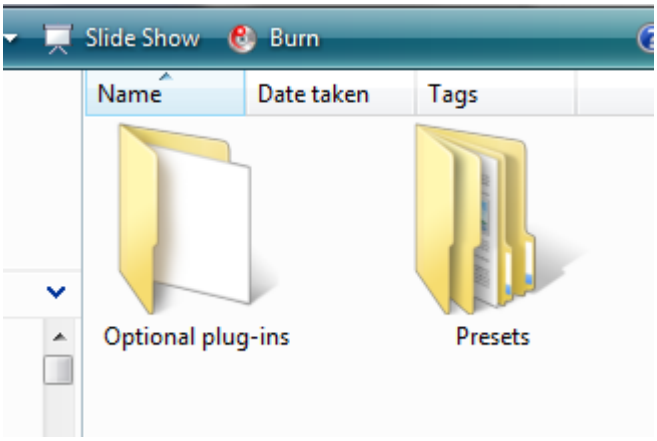
webgallery.mov

4.3 Using the Picture Package

In order to use the picture package in CS4 you will need to go into the presets folder within the Goodies folder that comes on the Photoshop CS4 installation disk or you can download this folder from Adobe's web site (see links below). To do this you will need to select the Goodies folder on the Installation CD or you can download a zip file from Adobe's web site with the presets.

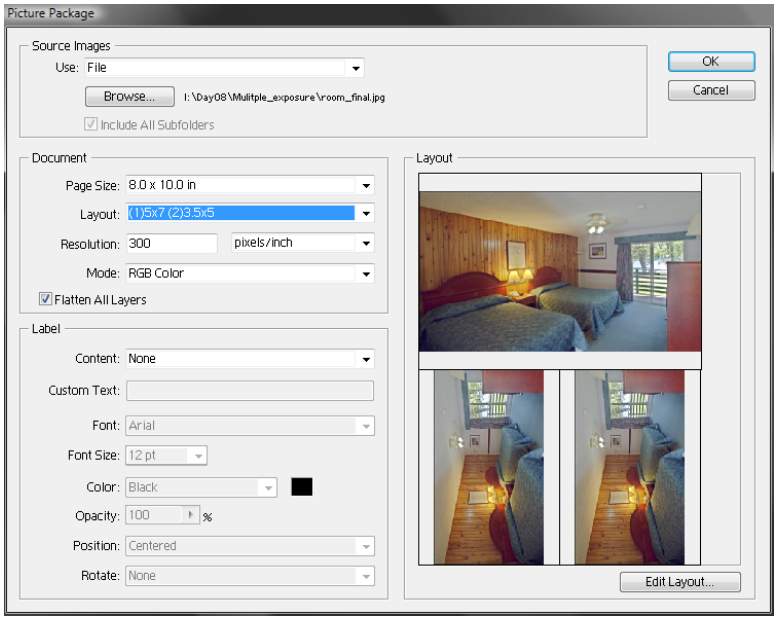
Mac: http://www.adobe.com/support/downloads/detail.jsp?ftpID=4047
Windows: http://www.adobe.com/support/downloads/detail.jsp?ftpID=4048

1. Open the Goodies_extra plugins folder (on Photoshop installation CD) – go into the folder and you will see two folders.

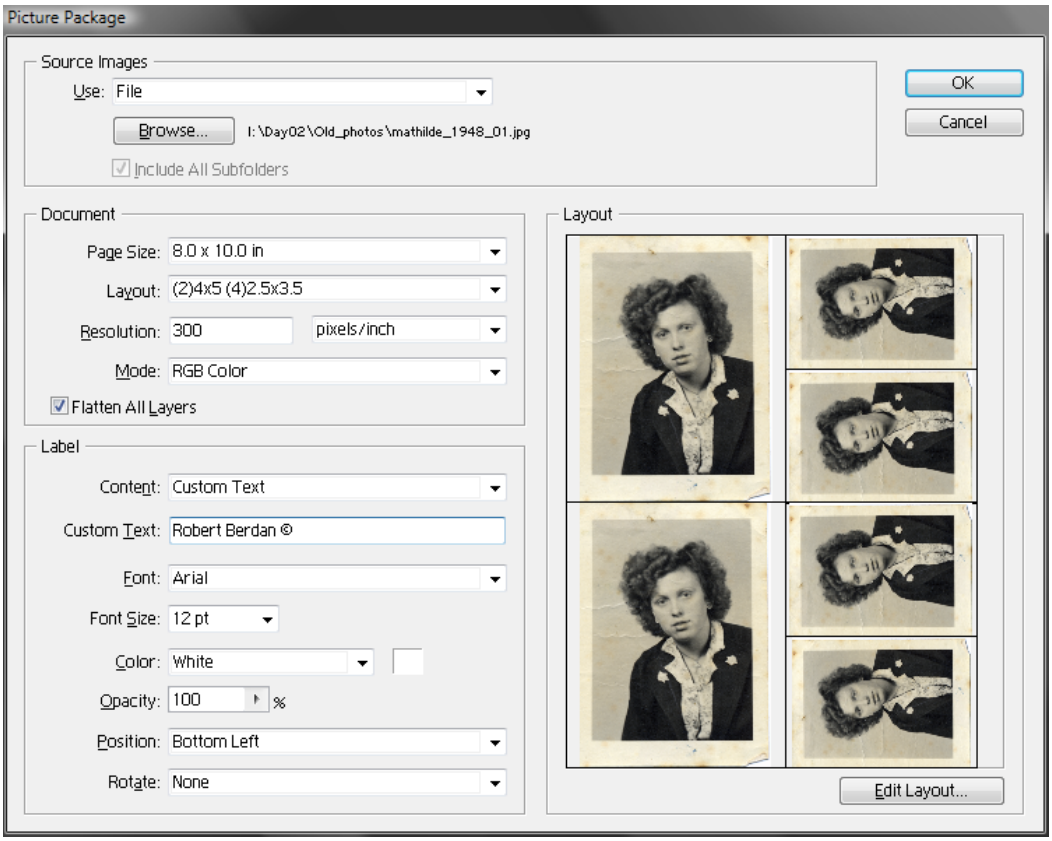


2. Select the Presets Folder and inside this folder you will see a Layouts folder. You need to drag this folder to Program Files>Adobe > Adobe Photoshop CS4>Presets - drag the entire folder inside.

3. Go back to Photoshop (you do not have to restart the program or reboot). Select File>Automate>Picture Package and if you see the window below you were successful.



4. From the layout you can select different options to create a page with different picture package layouts. You need to select Browse and select a photo to view them in the side window – see above.



5. You can double click on any image in the layout to select and alternative image – i.e. not all the images need be the same. You can also click on Edit layout to vary or change the preset layouts you are provided with.

6. In the label field select Content>Custom Text and in the field below Custom Text: type your name or a company and add a copyright symbol (Alt-0169). You can also vary the position of the text select > Bottom Left - when you are done adding text click OK

7. Photoshop will create a page 8 x 10 or other size and organize the picture you selected on a page for easy printing and distribution.

picturepackage.mov

4.4 Create a PDF Slideshow

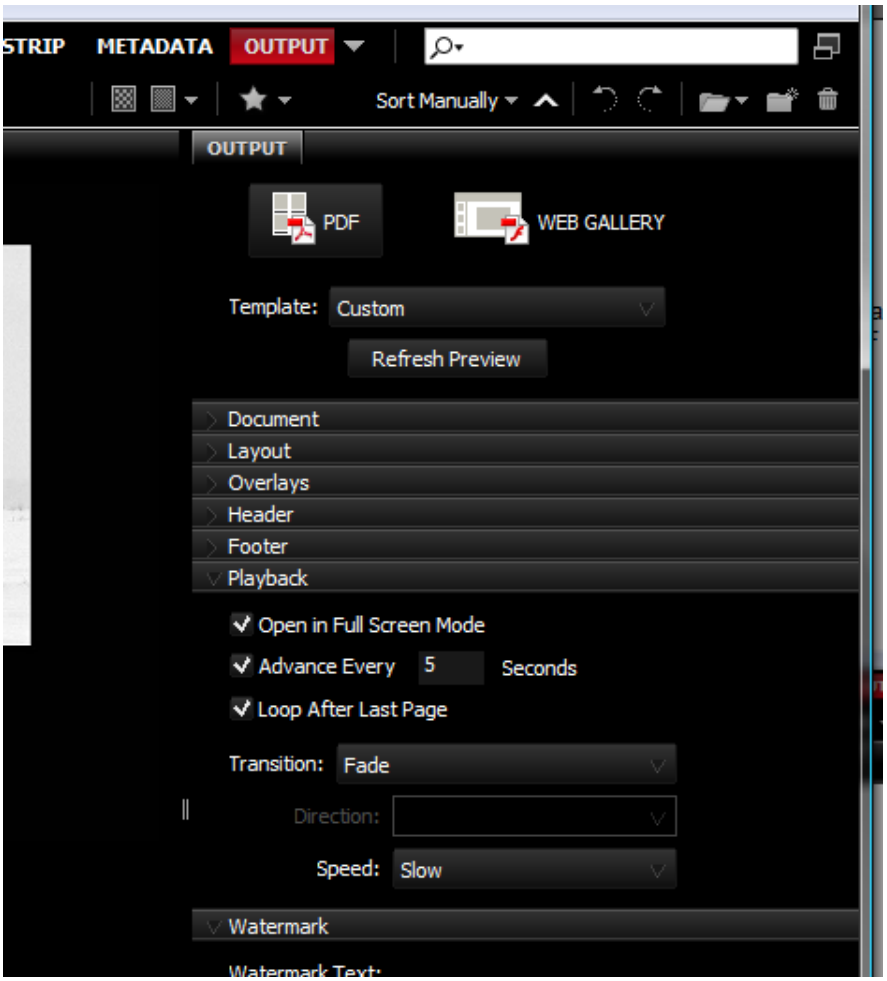
Photographers will often want to create a quick slide show of their images to show a client or email an editor with a magazine proposal. One of the quickest and easiest methods is to create a PDF slide show using Photoshop CS4. You can even password protect the slide show. The PDF slide show feature has been moved from the Automate menu in CS3 to Adobe Bridge in CS4.

1. First you will need a folder containing the images you want to create a slide show - for this lesson use the folder called rberdan_16_lowresimages.

2. Start Photoshop CS4 and open Adobe Bridge (Select >File>Browse in Bridge or select the Bridge button in the top menu bar). Navigate to your folder and select it so you can preview your images.

3. At the top of Adobe Bridge select Output (show below in red)

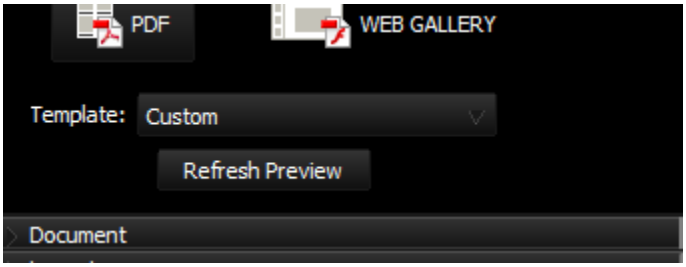
4. On the right side of Bridge select the button – PDF near the top right



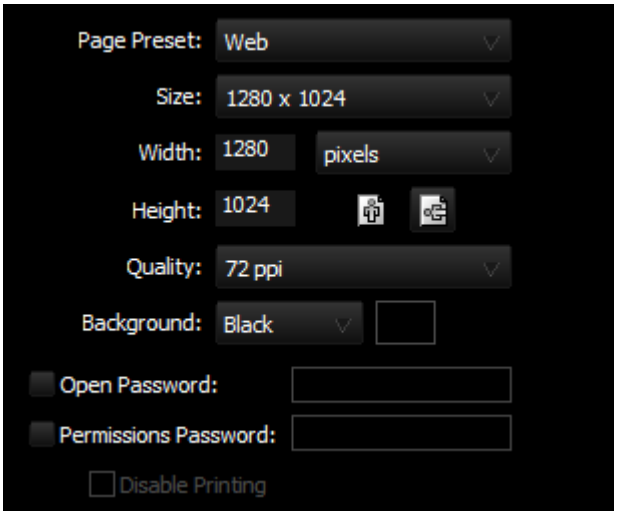
5. There are a large number of options you can select to control the size of the PDF slide show, background color, resolution, playback speed and transitions. You will need to experiment with some of these features to learn what all of them do – but to get you started follow these steps.

6. First in the bottom of Adobe Bridge you will see thumbnails for the images in the folder you selected. Shift-click to select all of them or Ctrl-click to select specific photos you want to include in your slide show.

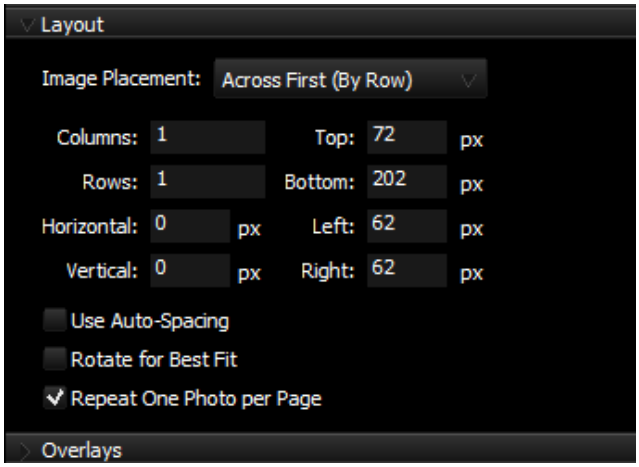
7. On the right side of Adobe Bridge under the PDF icon – start by Selecting Template>Custom



8. Expand the Document panel set Page Preset: Web Size: 1280 x 1024 (select different size if you want your slides bigger or smaller). Set height to 1024, Quality 72 dpi to match the screen, Background Black - Password – optional if you want to add one, you can also select to disable printing.

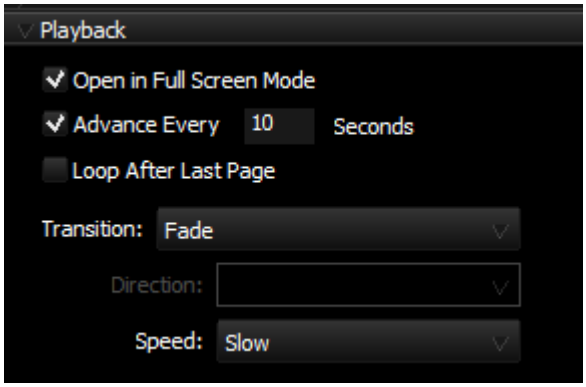


9. Expand the Layout options – select repeat one Photo per page – see below.

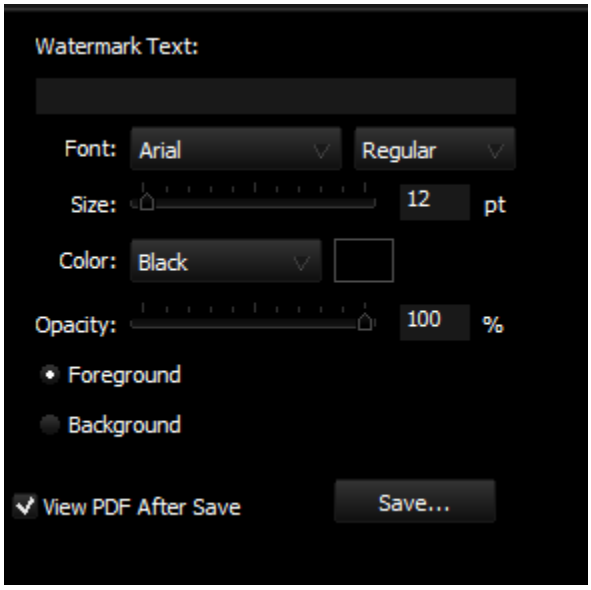


10. Sections on Overlays, Header and Footer are options you can play with – we will leave these blank for this tutorial. Expand the section on Playback>Select Open in Full Screen Mode, Advance every 10

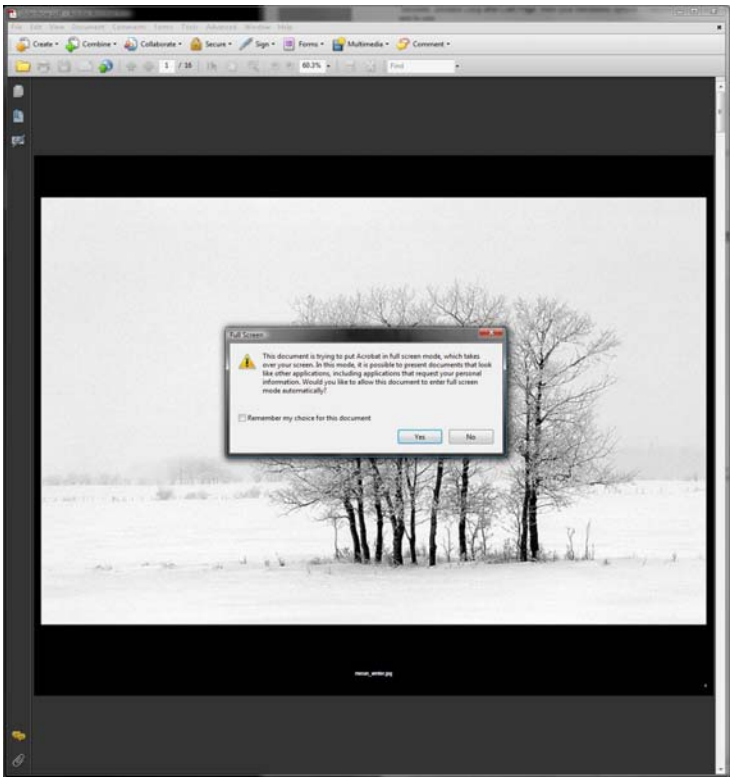
seconds, uncheck Loop after Last Page. View your transitions options – I recommend Fade as the best one to use.



11. Under the section Water mark – leave this blank i.e. don't put any text, Color set to black and check view PDF after Save. Click save and view your slide show – modify the options to meet your specifications and needs.



12. Finally click save and in the pop up box provide a filename e.g. slideshow and choose where you want to save your PDF file to. Click Save and let Photoshop do the work. When Photoshop is finished it should open the PDF up in slide show mode.



PDF slide show

slideshow.mov

4.5 Add Light Rays to Your Photos

Ask photographers what is the most important element in a successful landscape photo and many of them will tell you it's the quality of the light. Light has direction, colour and varies from harsh and direct to soft and diffuse. Capturing the essence of light in your photos can add impact and grab attention. A painter can control the appearance of light in a painting whereas a photographer has to search and position themselves when lighting conditions are optimal and that is a big part of the challenge in photography. However, it is also possible to augment and modify lighting in Photoshop - we can turn day into night and we can affect the direction and quality of light. Some might argue if we do this we crossing a line we shouldn't. I would argue it depends on the purpose of your photograph - if the purpose is documentary photography then photographers should restrict themselves to colour photography with a normal lens with minimal image processing.

I would like to argue that everything a photographer does influences and manipulates the final image including the photographers viewpoint, choice of exposure, choice of focal length, use of artificial lighting such as flash, use of filters, shutter speed and timing. Indeed if photography is to transcend into art - then almost anything should be permitted if the intention is to use photography to create art and we can let others decide if our message was successful or not. When I take pictures I am photographing a combination of what I see and what my mind sees. Photoshop helps me achieve what I see in my mind. However with any form of manipulation it should be done in such a way as to be believable and realistic - I want to create photographs that transcend simple documentary records. I am not saying that you can't capture emotionally moving documentary photos - one can - but lets not mislead our selves into believing that using some forms of manipulation like using a telephoto lens, use

of filters or shooting in Black and white are not forms of manipulation - they are. Even straight JPG files from your digital camera are processed by the camera and vary from camera to camera. If all photographers work looked the same photography would be a very boring form of art and self expression.

Sarrail Creek in Kananaski - the light rays coming through the trees were added using Photoshop.

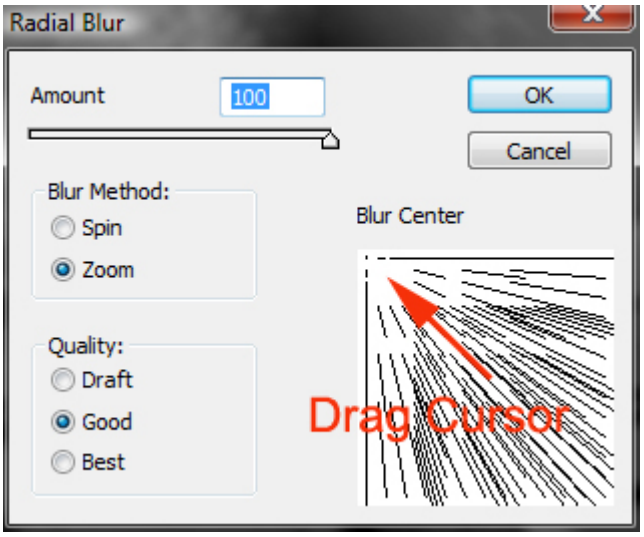
In this lesson we are going to look at some ways you can add light rays to your photographs. There are many ways to achieve this technique these are some of the ways that I have found useful.

1. In Photoshop navigate to the folder light rays and open the photo called sarrailfalls_before.jpg. Choose Edit>duplicate. By working on the duplicate image we can refer back to the original for comparison.

2. Open the layers palette - select the background layer and duplicate it - you can right click on the layer and select duplicate or press the shortcut keys Ctrl-J.

3. In the layers palette select the duplicate layer. Then choose image adjustments>Threshold set the threshold to about 100 to produce a high contrast BW image. - click OK.

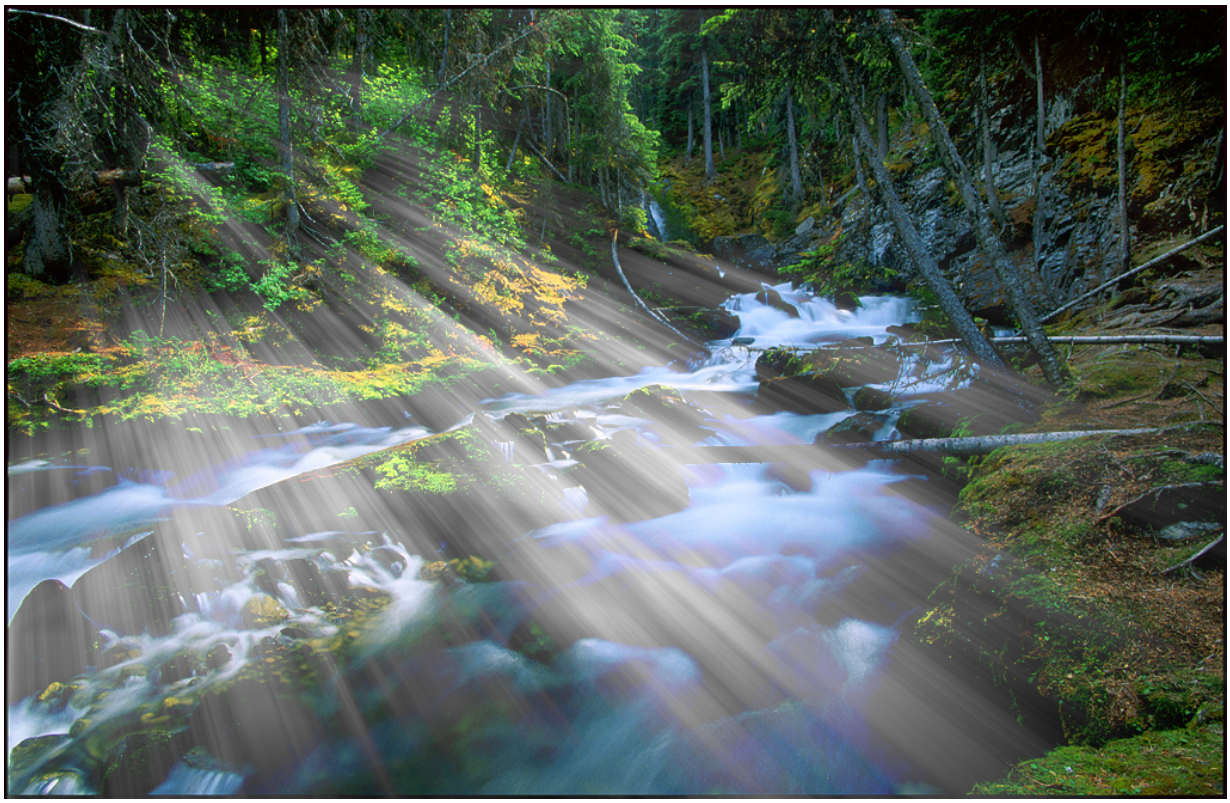
4. With the Background copy layer selected choose Filter>Blur>Radial Blur Set the amount to about 100, Blur Method to Zoom, Quality Best and drag the Blur Center to the top left of the window and then click OK.



Radial Blur settings - choose Quality Best. Where you drag the cursor depends on where you want the light source in the picture to appear from.

Light rays produced using the radial blur on the background high contrast copy layer.

5. To see what our light rays look like select the top layer and change the blend mode to lighten.

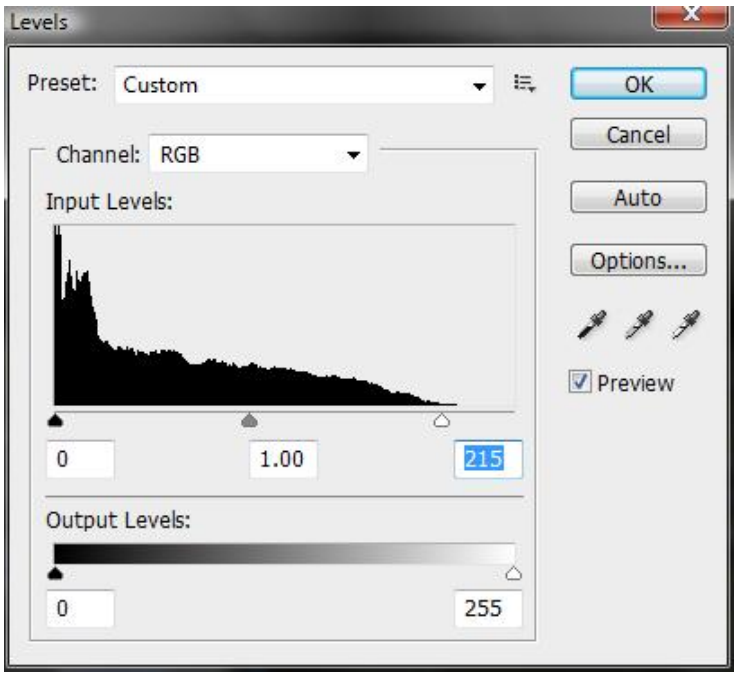


The light rays appear to come through the trees and since we created the light rays from our high contrast background copy which we blurred - the rays fit the holes in the trees. To make the effect more realistic we can soften the light rays further by blurring them and even erasing some parts of them and we can reduce the overall opacity of the layer to reduce the light rays intensity.

6. With the top background copy layer selected - choose Filter>Blur>Gaussian Blur and set the radius to 2.7 pixels to soften the light rays slightly.

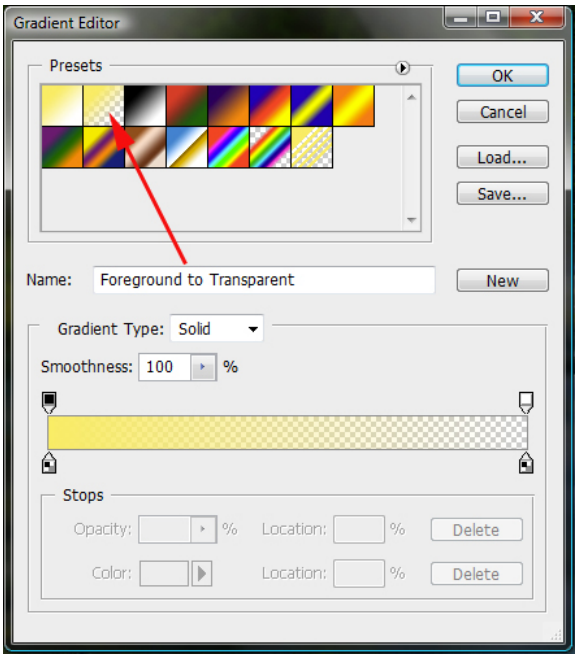
7. Currently the light rays are covering most of the picture and we need to simulate areas where the light was blocked by a tree and lets us see the river behind it. To accomplish this Select the eraser tool, set the brush diameter to about 100 px, Soft edge i.e. hardness set 0%, opacity 100%. With the background layer selected - use the eraser to remove some of the light rays over the river. Try to run your eraser in the direction from top left corner toward the bottom right corner. Vary the brush size in different regions.

8. If you want to enhance the light rays - select the background copy layer - then choose Image>adjustments>levels



Adjust the highlight slider to the left to about 215 to brighten the light rays.

9. In this particular photo the colour of the light is white, but you can change it and make it more yellow - warmer. To do this Create a new empty layer above the background copy layer. In the tools palette select a warm yellow colour as the foreground colour - then select the gradient tool, and in the options bar at the top make sure the gradient is set to Foreground to transparent. Click on the gradient to open the gradient editor pop up box.



10. Drag the gradient from the top left corner to the bottom right corner. Change the blend mode to multiply and reduce the opacity to about 35%. Flatten the image and save. These are starting points for creating light in your own photos - it takes some experimentation and sensitivity to apply light in a realistic manner. Enjoy.

lightrays.mov

Final Thoughts

Some photographers feel that manipulating an image somehow destroys the magic of what we captured. It is interesting to note that over a hundred years ago photographers argued that images should not be manipulated in a darkroom in spite of the fact that film emulsions were blue sensitive and skies tended to be washed out without showing any clouds. In spite of these arguments many of the best photographers began to process and manipulate their images to make them look better - none perhaps was better then Ansel Adams. Image manipulation in the darkroom became an art and is now widely accepted although classical darkrooms are disappearing. As a nature photographer I seek out examples of beauty in nature and want to share it with others and this means getting up very early, waiting for hours, buying the best equipment possible and then transforming the images in my computer to represent what I saw in my mind. If I were to add animals or components that were not in the original image such as light rays then I consider the image to be digitally manipulated. Otherwise, if I am simply massaging the elements that were already there and I believe I am simply interpreting the image the way I saw it or would like to see it - think of it as a form of post visualization.

Never forget the fact that all photographs exhibit some form of manipulation - choice of camera, lens, timing, viewpoint - even the presence of a photographer can influence the chain of events the unfolds in front of them. So unless you are taking photos to record some important historical fact or documenting the mating habitats of some rare bird like an Eskimo Curlew then I would not worry too much about what some photographers think about using software to process your image. There are photographers still shooting film and they may continue do so without ever knowing the benefits of digital photography or until they can no longer purchase film. The joy of photography is in capturing things that are meaningful to you and sharing them with the others, however your choose to do so. It is not brain surgery - for most of us we do it because we love to do it and if the computer and software can help realize your vision - so be it. Besides its fun to play with your images when its dark and 20 below zero outside :-)

Additional References:

1) Michael Orton, (1992) Once upon an Island – out of print. Michael Orton, (1994) Popular photography, September issue, page 52. Michael also describes the use of this technique in his book "Photographing Creative Landscapes " Amherst Media, 2001.

2) J. Davis & B. Willmore (2004) How to Wow Photoshop for Photography, Peachpit press ISBN 0-321-22799-9

3) C. Bloch (2007) The HDRI Handbook, Rocky Nook Inc., California. ISBN 978-1-933952-05-2

4) F. McCollough ((2008) Complete Guide to High Dynamic Range Digital Photography, Lark Books, NY ISBN 978-1-60059

5) B. Fraser & D. Blattner (2006) Real World Photoshop CS2, Peachpit Press, CA ISBN 0-321-33411-6

About Robert Berdan

Robert currently operates Science & Art Multimedia in Calgary, AB where he offers services in web design, photography, video and private training. Robert has developed and taught a wide variety of courses on photography, web design and Photoshop at local colleges and privately in his studio. Robert has used Photoshop since version 1.0 and has been photographing for more then 35 years. His photos have won international acclaim from Nikon, National Geographic and Canadian Geographic. His photos have appeared in numerous magazines and books. Robert is also an adjunct assistant professor at the University of Calgary. Robert enjoys being outdoors taking pictures of the Canadian landscape and wildlife and spending time with family and friends.

You can view more of Robert's photography on his web sites:

www.scienceandart.org
www.canadiannaturephotographer.com

Robert offers photography workshops, private training and Photoshop training in his studio in Calgary, AB.