Nikon Capture NX "How To..." Series

Article 26 - How to compensate for loss of detail in an overexposed NEF RAW image.

Purpose: Using negative exposure compensation and the LCH Editor, highlight tones may be returned (somewhat) from overexposure. This operation is for NEF RAW images only.

Before: The white candles exhibit a loss of highlight detail.

After: The loss of detail in the highlights is suppressed with tone compensation.

Process:

Step 1 - Open an image and check for loss of detail in highlight areas.

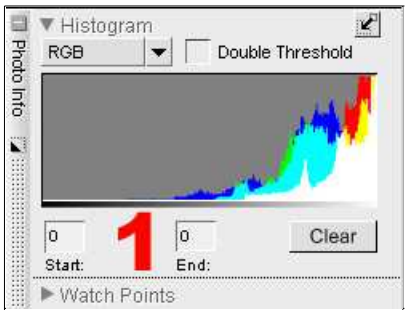
Step 2 - Apply exposure compensation.

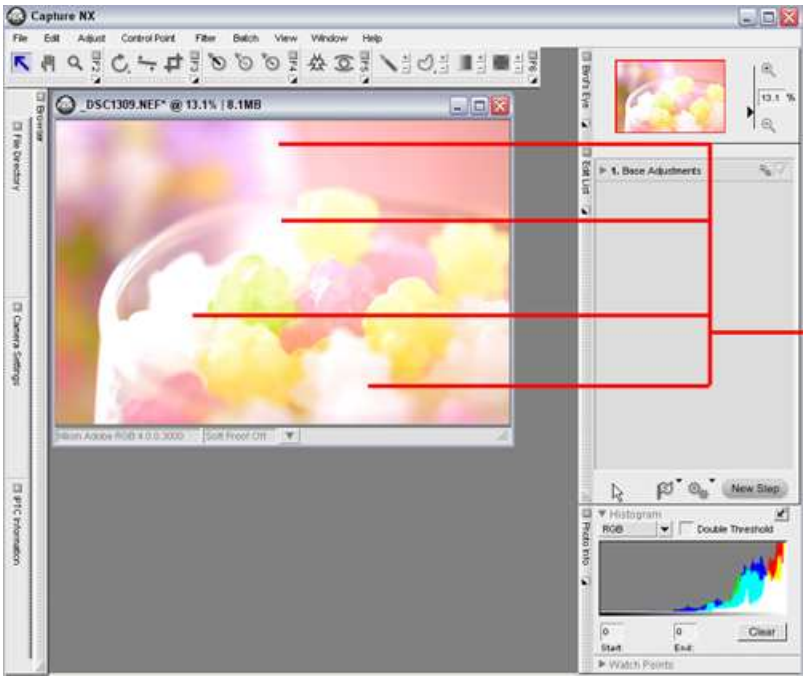
Step 3 - Adjust brightness using the LCH step.

NOTE: This operation only works with NEF RAW images.

Step 1 - Open an image and check for loss of detail in highlight areas.

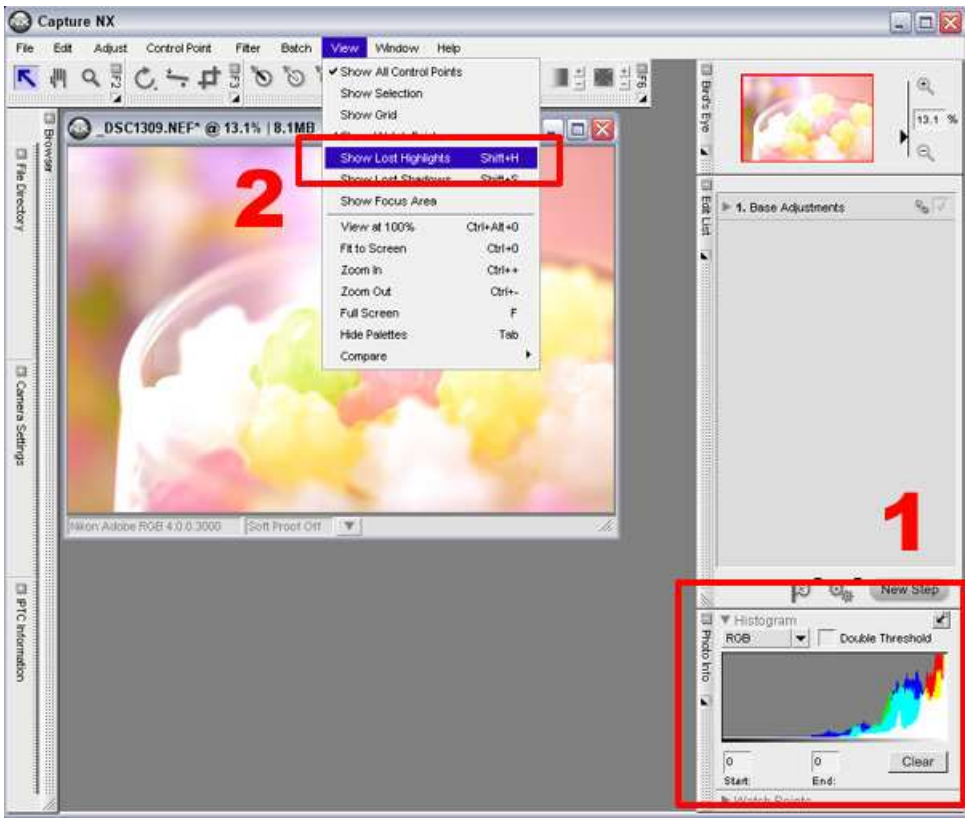
1) Open an image and use the histogram to check for loss of detail in the highlight areas.This histogram indicates a loss of detail in the highlight areas.



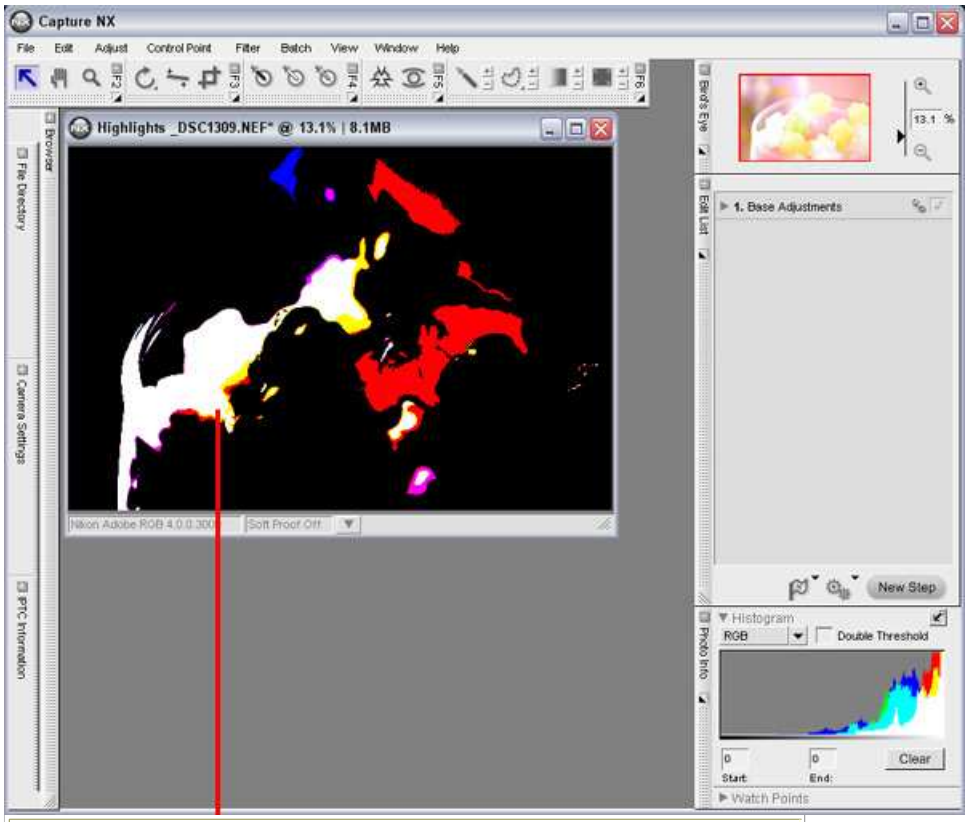


Data has been lost in these areas of the image.

2) If the histogram is too complicated, select "Show Highlights" from the "View" menu.



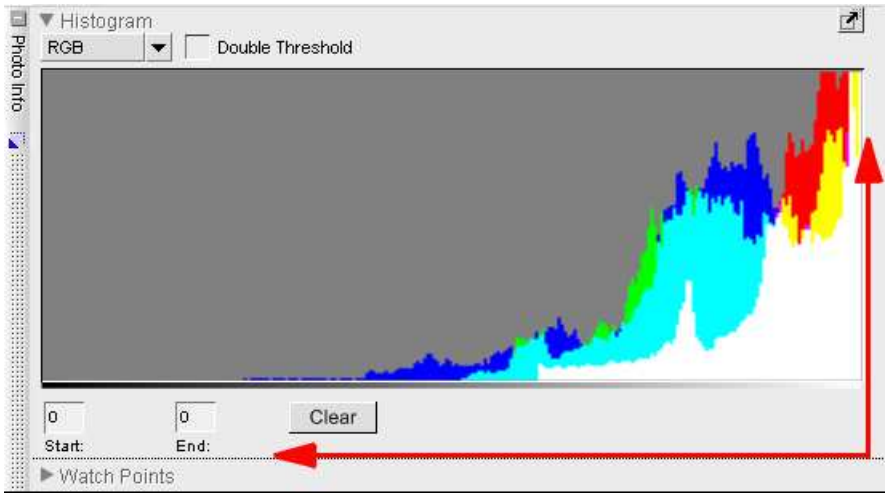
3) Image display will change so that only the highlights exhibiting a loss of detail are displayed. Once you have confirmed that the image exhibits loss of detail in the highlights, select "Show Lost Highlights" from the "View" menu again (step 2) to return to normal image display.



This is how the image is displayed when details are lost in highlights. The highlights exhibit a loss of detail. Areas displayed in blue, red, or yellow, indicate that detail is lost in some of the RGB channels. Here we focus on the areas shown in white.

Understanding the histogram.

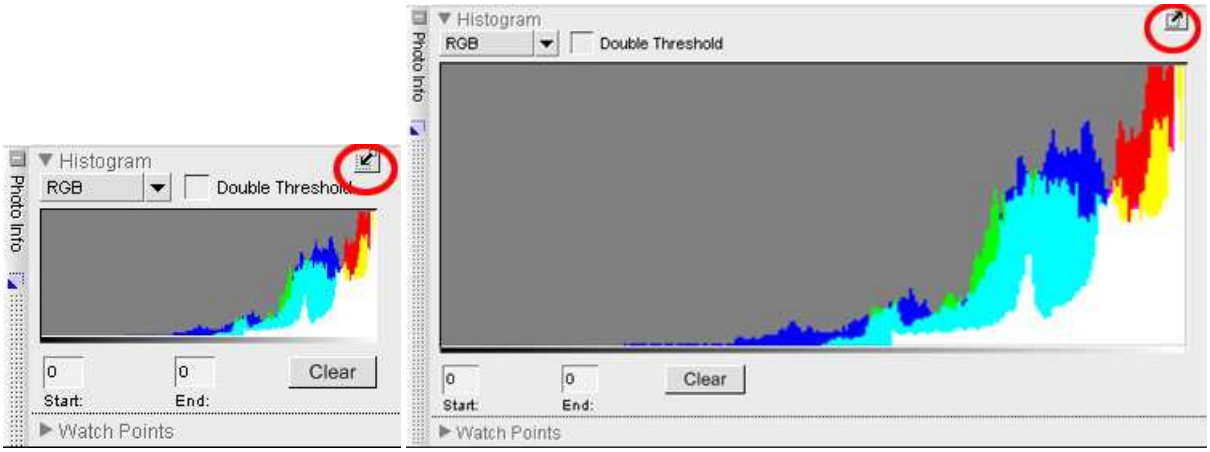
The histogram is used primarily to check luminance (brightness) distribution throughout an image. Shadow tones are displayed on the left side of the graph while highlight tones are displayed on the right. The vertical axis (the height of spikes on the graph) indicates the number of pixels, or how much of the image, are found at a particular brightness level. Generally speaking, the farther to the left the majority of spikes are on the graph, the darker the image. In contrast, the further the right the spikes are, the brighter the image.



Shadows----------Highlights

The height of the spikes indicates the number of pixels, or how much of the image, are found for a particular tone or brightness level. In this image, the spikes are concentrated to the right (highlight end) of the histogram. This tells us that the image is quite bright.

Enlarging the histogram:
With Capture NX Ver.1.1, the histogram can be enlarged for easier viewing.
Click the button at the top right of the "Photo Info" palette to enlarge histogram display.
Click the same button again to return display to normal size.



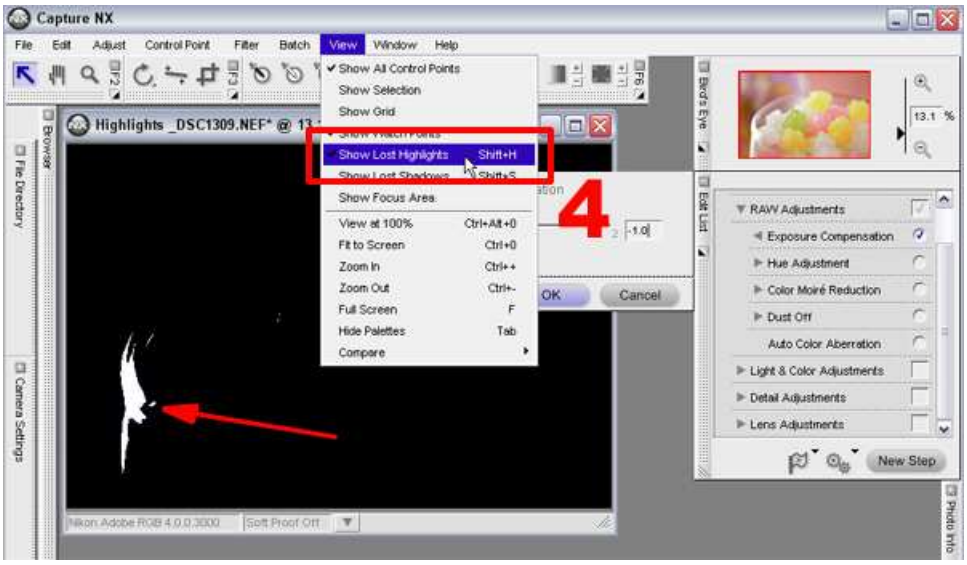
Step 2 - Apply exposure compensation.

1) Click the show / hide triangle next to "Exposure Compensation" under "1. Base Adjustments /Raw Adjustments" in the "Edit List".

2) The "Exposure Compensation" dialog will be displayed. Move the "Exposure Compensation" slider to the left to apply negative compensation. Here we have applied negative compensation equivalent to -1 EV.

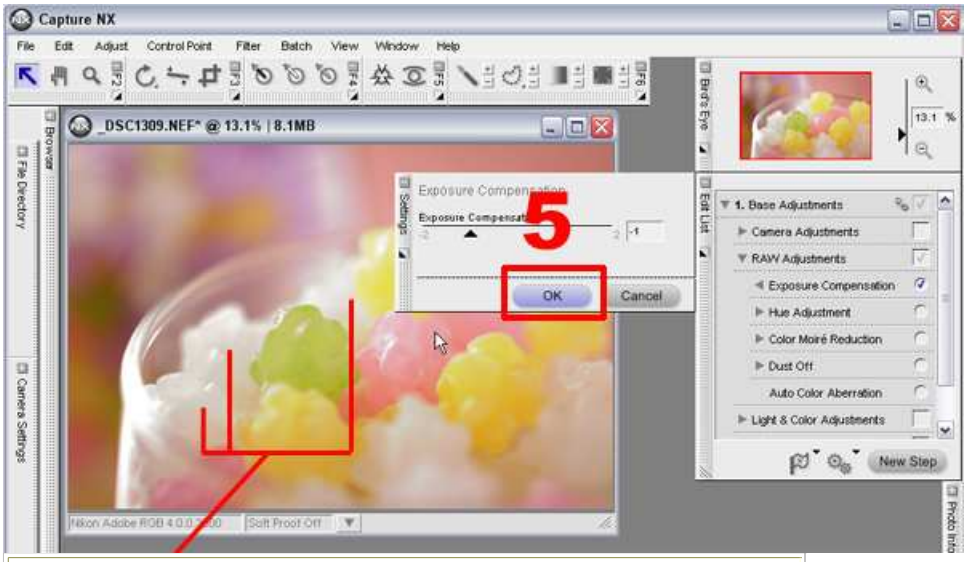
3) As negative compensation is applied, the image becomes darker. This compensates the highlight tones that exhibited loss of detail confirmed in Step 1.

4) Select "Show Lost Highlights" from the "View" menu again to see whether the image still exhibits a loss of detail in highlight areas. Once you have confirmed the effects of negative exposure compensation, select "Show Lost Highlights" from the "View" menu again to return to normal display.



The highlights exhibiting a loss have been significantly reduced. As this area is part of the glass container, loss of detail is acceptable here.

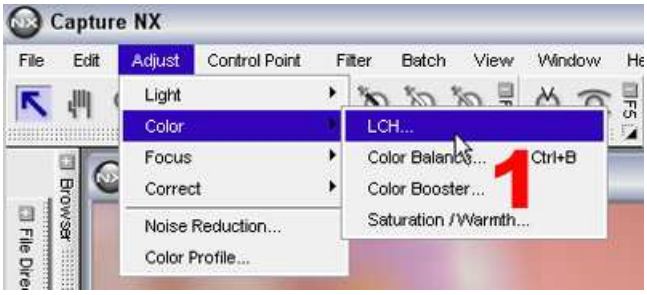
5) Once you have confirmed that the highlight areas exhibiting loss of detail have been reduced or eliminated, click "OK" in the "Exposure Compensation" dialog.



Tones have been compensated for highlights exhibiting a loss of detail.

Step 3 - Adjust brightness using the LCH step.

1) Select "LCH..." from the "Color" submenu in the "Adjust" menu.

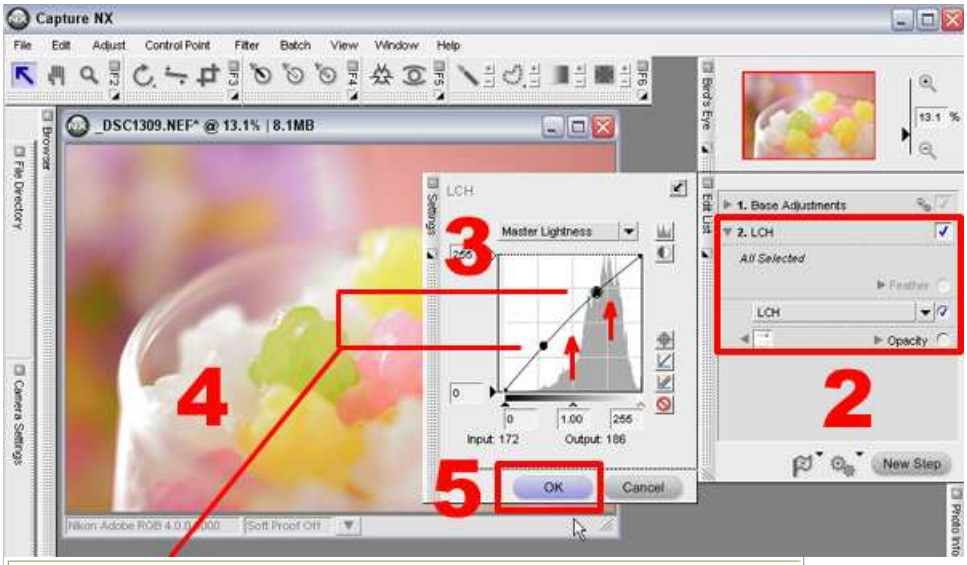


2) An LCH step has been added to the "Edit List".

3) Raising the "Master Lightness" curve, as shown in the illustration, increases the brightness of an image. Adjust this curve to achieve optimum brightness for the entire image, without causing detail to be lost in the highlights.

4) The image will be brightened according to the level of LCH adjustment.

5) Click "OK" to finalize LCH enhancement.



Here we have added two points to the Master Lightness Curve, raising it for a brighter image.

Enlarging the LCH dialog

With Capture NX ver. 1.1, the LCH dialog can be enlarged by clicking the button in the upper left corner of the dialog. This makes more precise adjustments to the curves possible. Click the same button again to reduce the display to normal size.