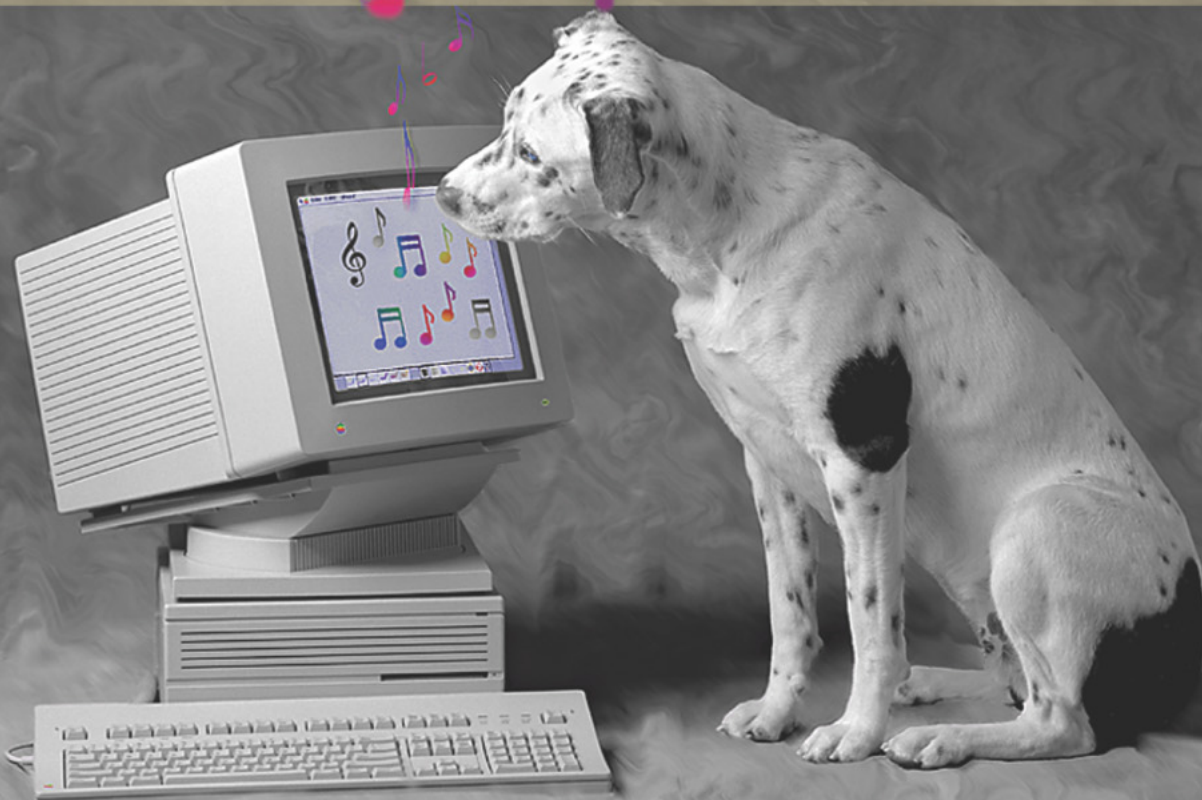


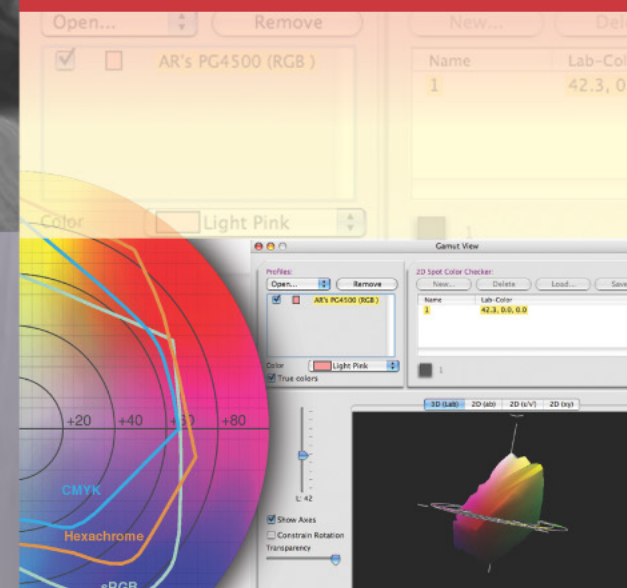
Hands on Techniques for  
Photoshop Users

# Color Management for Photographers



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## Andrew Rodney

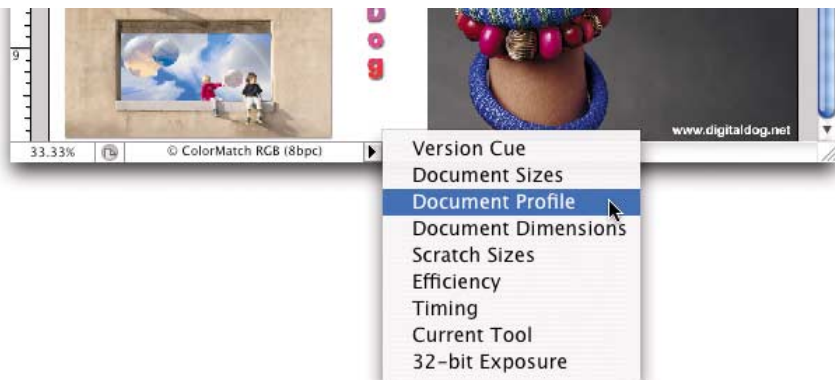


## Tutorial #5: Color Policy

Use this tutorial to get a better grasp on what the three policies really do and how the warning check boxes affect the resulting behavior. Before you begin, be sure the **Document Profile** indicator is set by clicking the small black triangle seen at the bottom left of the document (see Fig. 9-5-1).

To start this tutorial, open the **Color Settings** in Photoshop by entering the **Command/Control Shift K** key command. Set your Color Settings to **U.S. Prepress Defaults** as seen in Fig. 9-5-2. Note that the RGB Working space is set to Adobe RGB (1998) and more specific to this tutorial, all the color policies are set to **Preserve Embedded Profiles** with all the warning check boxes on.

1. Open the **Dog\_in\_Bowl.tif** document that is in the Tutorial folder that shipped with this book.
2. Upon opening this document, you should get an **Embedded Profile Mismatch** dialog as seen in Fig. 9-5-3. This is because the document **Dog\_in\_Bowl.tif** has the sRGB profile embedded into the document. Notice that the radio button that is highlighted by default is set to **Use the embedded profile (instead of the working space)**. The presently set and preferred RGB working space is Adobe RGB (1998) as seen toward the top of this dialog box next to the heading named **Working**. The reason the radio button is set to preserve the embedded profile (and thus sRGB) by default is due to the policy: **Preserve Embedded Profiles**. This policy ensures that the default option is to preserve the profile embedded in the document instead of the working space.
3. Keep the settings seen in the **Embedded Profile Mismatch** dialog as they appear in step 2, click **OK**, and the document will



**Fig. 9-5-1** By clicking on the small triangle seen at the bottom of a document, select the **Document Profile** indicator as seen here.

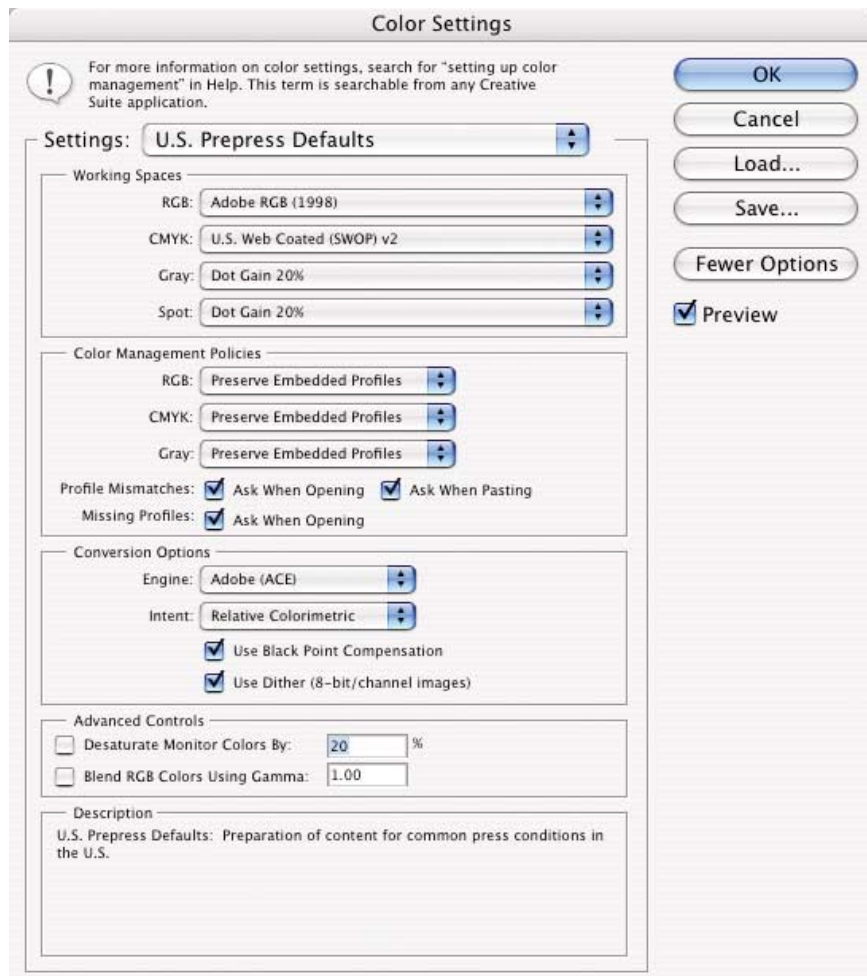


Fig. 9-5-2 After choosing the Color Settings, this dialog appears. Set the **Settings** pop-up menu to **U.S. Prepress Defaults** (North America Prepress 2 in Photoshop CS2) as seen here and click **OK**.

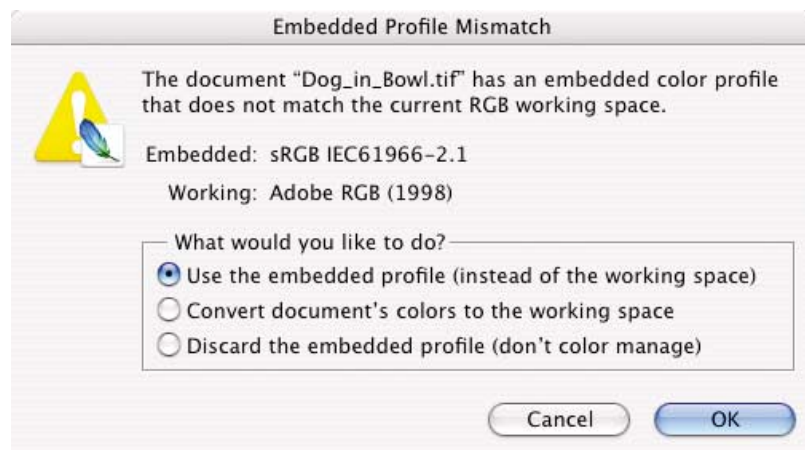


Fig. 9-5-3 The **Embedded Profile Mismatch** dialog with the default radio button set to **Use the embedded profile** (instead of the working space).

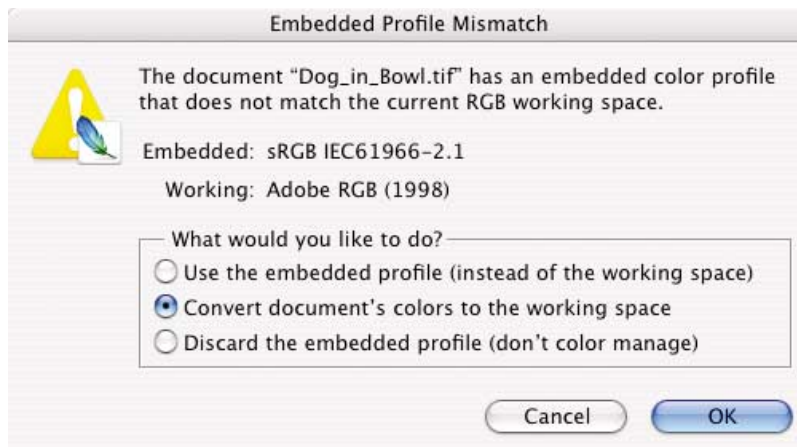


open. Notice that the document Profile indicator shows the document is in sRGB (specifically sRGB IEC61966.2.1). The image is being previewed correctly since Photoshop knows that the document has this embedded profile.

Although our Color Settings were set so that Adobe RGB (1998) was set for the preferred RGB working space, we were able to open this **Dog\_in\_Bowl.tif** document in sRGB without altering the data and we are able to preview the document correctly thanks to the Document Specific color handling. The RGB working space [Adobe RGB (1998)] plays no role here! If the document we open happens to have an embedded profile that matches our working space [in this case Adobe RGB (1998)], the document would simply open with no warning. Since **Dog\_in\_Bowl.tif** isn't in Adobe RGB (1998), we get the **Profile Mismatch** warning. However, the **Preserve** policy allows us to open the document with a single click **OK** and keep the document in the original color space.

Go back into the **Color Settings** once again. This time set the policy for RGB documents to **Convert To Working RGB** and click **OK**. You might note that the **U.S. Prepress Defaults (North America Prepress 2** in Photoshop CS2) heading we saw in the **Settings** pop-up menu earlier is now replaced with **Custom**. Anytime a user alters a fixed setting this happens since the Color Settings are no longer matching the original and saved setting.

1. If the **Dog\_in\_Bowl.tif** document is open, you can close it. Now reopen this document again. Photoshop's **File-Open Recent** menu is a useful way to recall frequently opened documents. Once more, the **Embedded Profile Mismatch** dialog appears. Notice however that in Fig. 9-5-4, the radio button is now set on **Convert document's colors to the working space**. The



**Fig. 9-5-4** The **Embedded Profile Mismatch** dialog with the default radio button set to **Convert** document's color to the working space.

reason the radio button defaulted to this item is due to the policy being set to **Convert to Working RGB**.

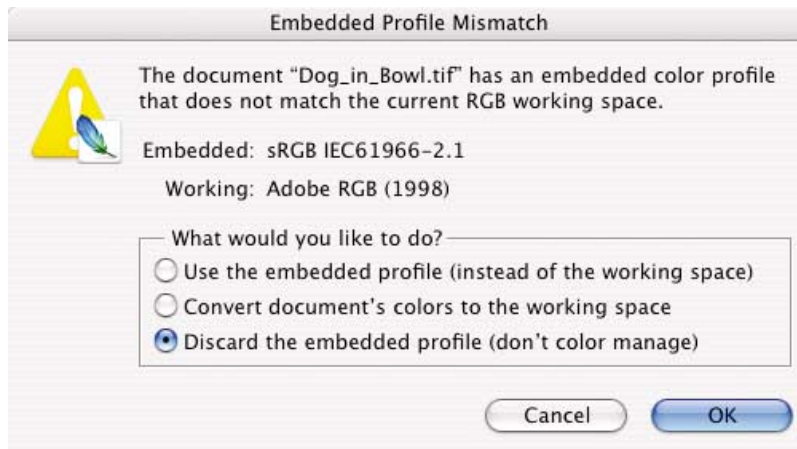
2. Simply click **OK**. You may see a progress dialog box that says **Converting Colors**, depending on how fast your machine runs. What is happening here is the document is being converted from sRGB to Adobe RGB (1998).
3. When the document opens, notice that the **Document Profile** indicator shows that the document is in Adobe RGB (1998), proving that a conversion did take place. All the data in this document has been changed on-the-fly when the document was opened.
4. The image preview should look virtually identical to the previously open document even though the data was changed from sRGB to Adobe RGB (1998). This again illustrates **Document Specific Color**. **Dog\_in\_Bowl.tif** previews correctly in Adobe RGB (1998) once that document has been converted to this new color space.

In reality, there is little if any reason to convert this document into Adobe RGB (1998). sRGB is a smaller gamut color space than Adobe RGB (1998) so converting on opening the document didn't make the color gamut of this document any larger. For whatever reason, the original user of the **Dog\_in\_Bowl.tif** document wanted it in sRGB. So preserving the original profile as we did the first time we opened the document makes sense.

If the **Dog\_in\_Bowl.tif** document is open, close this image and if asked to save, click **Don't Save** or just hold down the **D** key. Go back into the **Color Settings** once again. This time set the policy for RGB documents to **Off** and click **OK**.

1. Now reopen the **Dog\_in\_Bowl.tif** document once again. The **Embedded Profile Mismatch** opens yet a third time. The RGB working space is still set to Adobe RGB (1998) and the **Dog\_in\_Bowl.tif** document is still not in that color space. Notice that this time, the radio button defaults to **Discard the embedded profile (don't color manage)** as seen in Fig. 9-5-5. Click **OK** to open the document.

If you examine the document's profile indicator at the bottom of the document window, you will see it now says **Untagged RGB**. The preview of the image shouldn't look correct either! This is because Photoshop will use the currently selected working space, in this case Adobe RGB (1998), as a mechanism for previewing documents, which are untagged. The **Dog\_in\_Bowl.tif** document is in sRGB. However, since we discarded the color profile, it opens untagged. Photoshop therefore uses Adobe RGB (1998) (the color space set in the Color Settings) as the assumption for previewing this document. Yet, the document is in sRGB,



**Fig. 9-5-5** The **Embedded Profile Mismatch** dialog with the default radio button set to **Discard the embedded profile (don't color manage)**.

not Adobe RGB (1998). This illustrates how dangerous the off policy can be! If this document is saved as untagged and given to another user, that user will never know the true meaning of the data in this document (sRGB). Close the **Dog\_in\_Bowl.tif** document and if asked to save, click **Don't Save** or just hold down the **D** key.

In these three cases, anytime **Dog\_in\_Bowl.tif** was opened, an **Embedded Profile Mismatch** dialog appeared. Photoshop is telling us that the document is in an RGB space that doesn't match what was set in the Color Settings. However, we were able to open the document with no alterations (sRGB) or open the document and convert into the RGB working space [Adobe RGB (1998)]. It is for this reason I like to describe the currently set RGB working space in our Color Settings [Adobe RGB (1998) in this case] as the *preferred* RGB working space. We are not forced to bring a document into this space if there is no reason to do so. In the case of the **Dog\_in\_Bowl.tif** document, there was no benefit to converting the document. For some users who might be getting documents from many other users, it might make sense to leave the document in the space in which it is supplied. The **Preserve** policy is ideal for this kind of pipeline. We use the **Preserve** policy when we want to honor the color space the document had originally tagged.

As for the **Convert to Working** space option, we can allow this conversion, but we should ask if there a compelling reason to do this. In some cases there certainly is! Imagine you are a web designer who is getting many documents from users and you want to be sure that all such documents end up in sRGB. Having a policy set to **Covert to Working** space and then setting the preferred working space to sRGB would allow this user to easily convert all documents into sRGB. Therefore, we would set the RGB working space to sRGB, and set the policy to convert upon opening these files. However, as you will soon see, we can automate this process if we are careful.

We've seen what the three policies do and that when the **Embedded Profile Mismatch** appears, we have the option to pick any of the three radio buttons depending on what we want to do, although I can't see why anyone would use the off policy to strip away profiles. The reason we have this control is that we have asked Photoshop to always present a warning dialog, thus allowing us to make up our minds case by case. However, there is a way to automate the process, which adds control and danger depending on your outlook.

1. Open the Color Settings and set the policy for RGB documents to **Preserve Embedded Profiles**. Now turn off the **Profile Mismatches: (Ask When Opening)** check box and click **OK**.
2. Open **Dog\_in\_Bowl.tif**. It opens with NO warning whatsoever in sRGB.<sup>2</sup> This is exactly the same behavior we saw earlier, where the original color space was kept intact (preserved) with the big difference being we got no **Embedded Profile Mismatch** warning dialog.
3. Close the **Dog\_in\_Bowl.tif** document. Then open the **Color Settings**, change the policy to **Convert To Working RGB**, and click **OK**.
4. Open the **Dog\_in\_Bowl.tif** document once again. If you look at the **Document Profile** indicator, you will see the data was converted to Adobe RGB (1998). This happened with no warning dialog because the warning check box was off. As you can see, this speeds up the process in situations where a user might want to *automatically* convert any document not in their preferred working space to the preferred working space. In some cases, this can be dangerous as you might have converted data you didn't really want to convert! If you configure the policy to **Off**, then any document opened will have its embedded profile stripped out with no warning. This is even more dangerous than setting the policy to **Off** and having the **Warning** check box on.

What you should be able to see from the tutorial is that the various policies play a far lesser role, if any, when the warning check boxes are on.

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<sup>2</sup>Note that the very first time a user attempts to open a document when turning off this warning check box, Photoshop will still show a modified **Embedded Profile Mismatch** warning with a **Don't show again** check box. This is a one-time safety net provided by Adobe to ensure that you really do want the warning turned off. If you see this warning, go ahead and click the **Don't show again** check box to continue with this tutorial. There are a number of such one-time warnings and once set, they can be returned to the original condition by going into the Photoshop **Preferences/General** settings and clicking the **Reset All Warning Dialog** button.