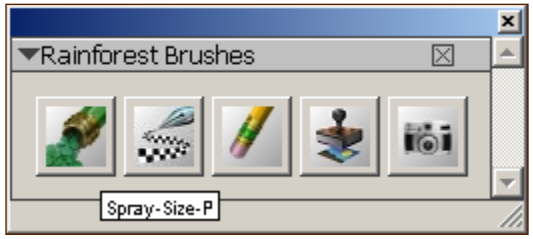
Painting Forest Scenes

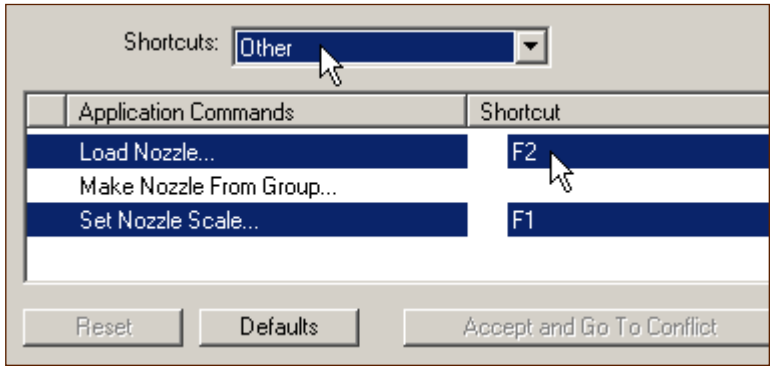
Here is a simple tutorial about painting a complex image, a rainforest. The technique is relatively straightforward. The main difference between these techniques and traditional painting practices is here you paint with images rather than simple line and color. That difference gives you the opportunity to add levels of detail that would be nearly impossible to achieve using traditional techniques.

A model or reference image helps. It is easiest if you use our finished image and retrace the steps we used to paint it. We've included the paints you'll need. Simply *download* and extract them to your desktop. Please remember, the steps outlined here offer only one approach. Your solutions may work better. So, consider this tutorial a simple process guide as technique is still an undiscovered country.



Try conceptualizing the painting process this way. First, traditional painting practices do not necessarily apply. For example, you cannot paint over a mistake like you can with a traditional painting. You use Undo (Ctrl/Cmd + Z) or an eraser instead. Second, you are painting on layers. That means you can delete that layer if necessary. The point is, you are no longer painting on a single opaque surface.

If you are using Painter, consider simplifying the common commands repeated in the tutorial. Create a custom palette for the Image Hose, Masked Pattern Pen, Eraser. If you don't own Photoshop, add the Straight Cloner and Dodge Photo brushes too. Moreover, use the Customize Key function in Preferences to make Load Nozzle, Set Nozzle Scale and Undo simple F-Key commands as shown below.



If you are using Paint Shop Pro or Gimp, the same principles apply. You will be painting on layers using tubes, pipes and the like. The only real difference involves brushes and brush settings. PSP, Gimp and others don't allow leaf angles to be governed by stroke direction as Painter does. Similarly, PSP and Gimp do not have a "Masked Pattern Pen" brush like Painter. So, you will not be able to paint tree trunks branches like Painter users will. You can, of course, paint them the old fashioned way. You can also use the pre-painted tree trunk and limb layers in the Trunk & Limb Layers.PSD. Simply drag and adapt them to the image. In fact, Photoshop users can use the assorted layer files to create this entire image.

Advanced users may want to use the "H" or "S" paints. These versions paint with drop shadows, which means they augment depth between foliage clusters as they paint. They offer an effective way to enhance spatial relationships. The problem is that the shadows over spray too. That over spray negates perspective by defining deep backgrounds like skies as a flat surface. So, unwanted areas of shadow have to be removed. The easiest solution is to remove them in Photoshop. We've included a set of PS actions that use Color Range to isolate

and remove unwanted areas of shadow from around leaves and foliage. Unfortunately, I haven't found an effective way to remove shadows using Painter. So, Painter users without Photoshop will need to find an alternative. A simple solution is to paint shadows on manually using the shadow nozzle. Paint Shop Pro users have another alternative. PSP can set the Magic Wand tool to create selections based on layer opacity. Since the unwanted areas of shadow are semi-transparent, it is a relatively easy method to apply. (For more information on removing shadows, see our *Removing Shadows* tutorial. Download the assorted *scripts* necessary to complete the shadows tutorial and extract them to your desktop.)

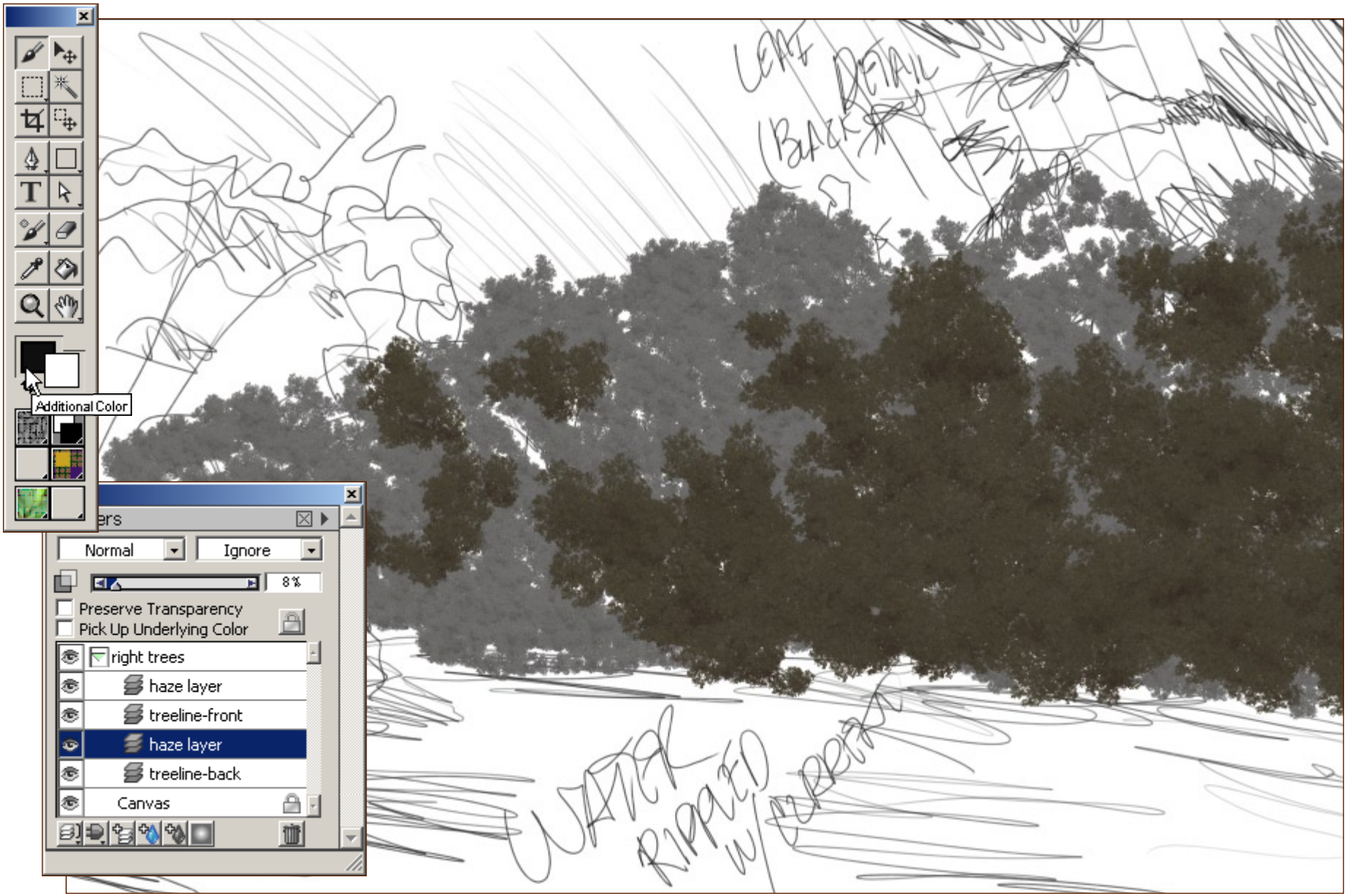
1) You have a subject so sketch composition in terms of the various layer components. For example, in our image you will note, a) a foreground tree to the upper right, b) the river, c) the undergrowth and trees on the left side of the river and d) the undergrowth and tree lines disappearing into the mist on the far river bank. Try to imagine each as a section consisting of several layers. The foreground tree consists of leaves and branches. The leaves are one layer and the branches another. Together, the layers make up that section.

2) The largest areas are the sky, the background forest and river. The sky is mostly mist that diffuses light. The river reflects the trees, forest and sky. So, the logical progression requires that the background forest and trees be painted first, then the atmosphere and river. This painting sequence largely defines the order of the layer sections as well.

3) To paint the background forest, load the Tropics-5 (lg forests) nozzle. Advanced users can load the "H" nozzle/tube versions instead. Use one or more layers for each tree line.

4) Set "Spacing" so the foliage does not spray too close, or use dabs. Increase size while painting from far to near and make sure to paint the rear smaller than the foreground.

5) After establishing the basic shape of the two tree lines, reduce contrast and darken to establish some spatial relationship between the two forest lines. (Painter users can make the "Additional" color black and lower the "Grain" brush setting to automatically darken the foliage.) Sandwich in two "haze" layers. Now fill each with gray and lower opacity.

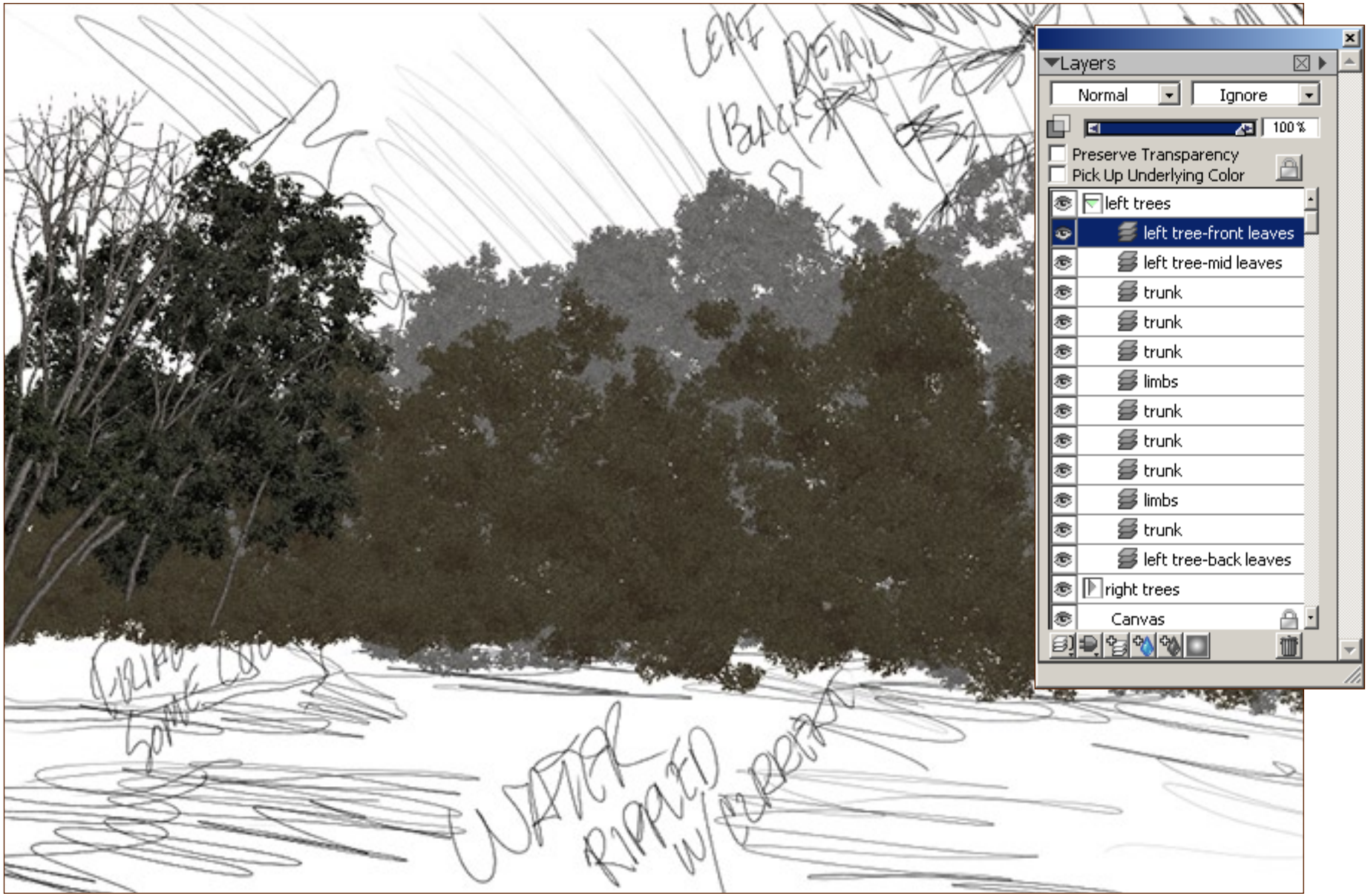


6) Add the trees to the left. The idea is to block in areas so that the relative scale of leaves and foliage are appropriate to the perspective. Now save a new iteration of the painting.

7) Use the Tropics-1 (sm tree) or Tropics-1 (small tree)_H paint for the left tree foliage. Be sure to increase brush spacing so the leaf clusters separate. (Using the advanced "H" shadowed paints requires that you remove the excess shadows. Simply painting shadows onto the foliage using a shadow nozzle and Preserve Transparency may be easier.)

8) Paint the tree's foliage using back, mid and foreground layers. Adjust the leaf size as you paint. You want the background leaves to be 30% smaller than the foreground leaves.

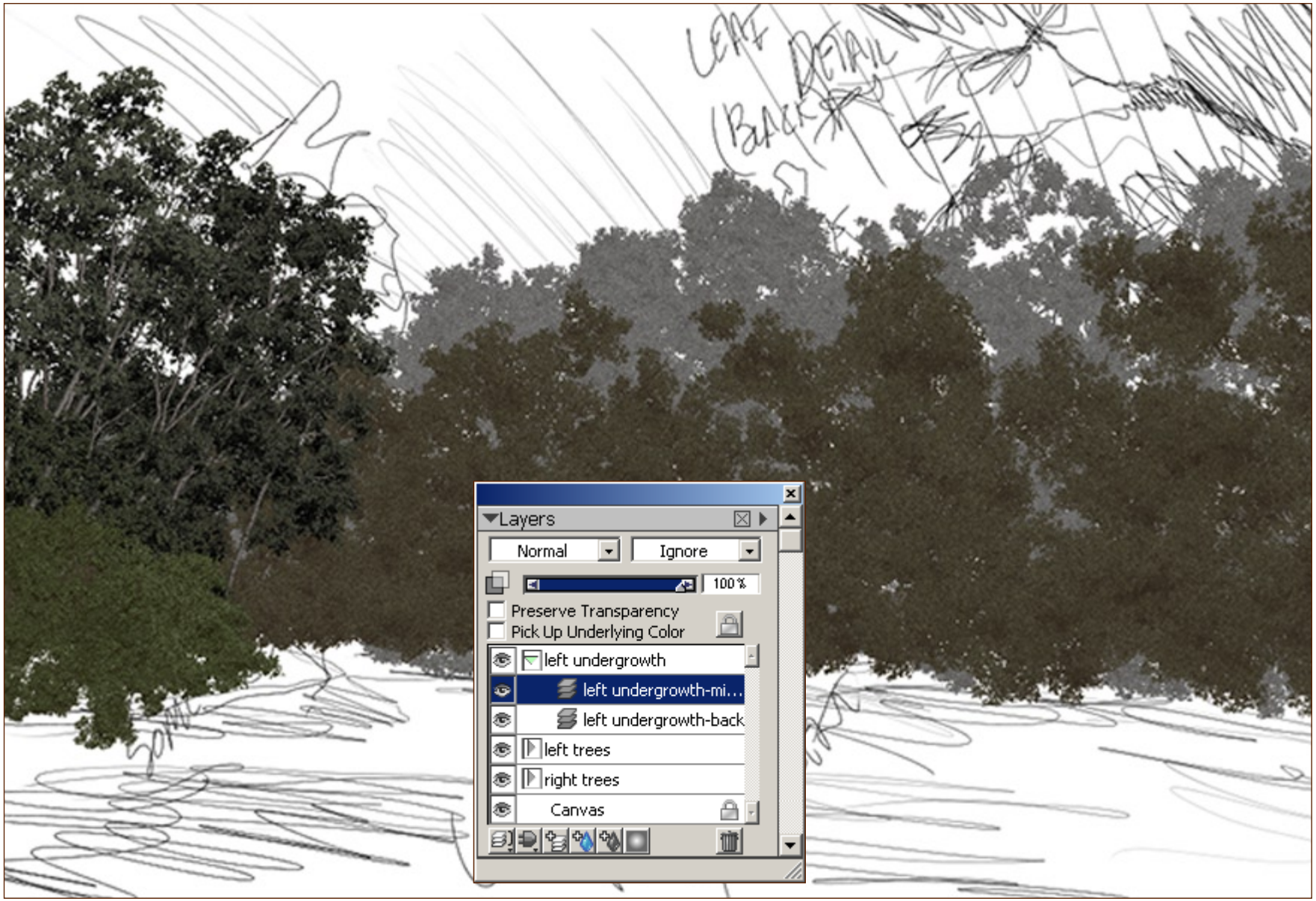
9) Painter users can render the trunks and limbs using the Trunk & Limb pattern library with a "Masked Pattern Pen" brush. Use a Size = Pressure setting so the trunks taper with the stroke. PSP users can paint trunks or use the Trunk & Limb Layers.PSD file. Whatever the method, use multiple layers so you can reposition and shade each trunk individually.



10) Once you have the tree the way you want it, paint undergrowth layers for both sides of the river. Use the Tropics-2 (sm forest)_H paint. You won't need to remove the shadows.

11) Adjust the spacing so the foliage paints loose. Make sure the leaves paint at the right scale too. Spray larger foliage beneath the left tree. Don't worry about realism. Just try to get the shape, scale and perspective right. Use "Undo" or simply delete the layer and start over if you make a mistake. Paint a line of undergrowth at the base of the opposing forest line on a another layer too. When you have finished with the trees and undergrowth, adjust and darken the colors so the new foliage is similar but distinct from the background forest.

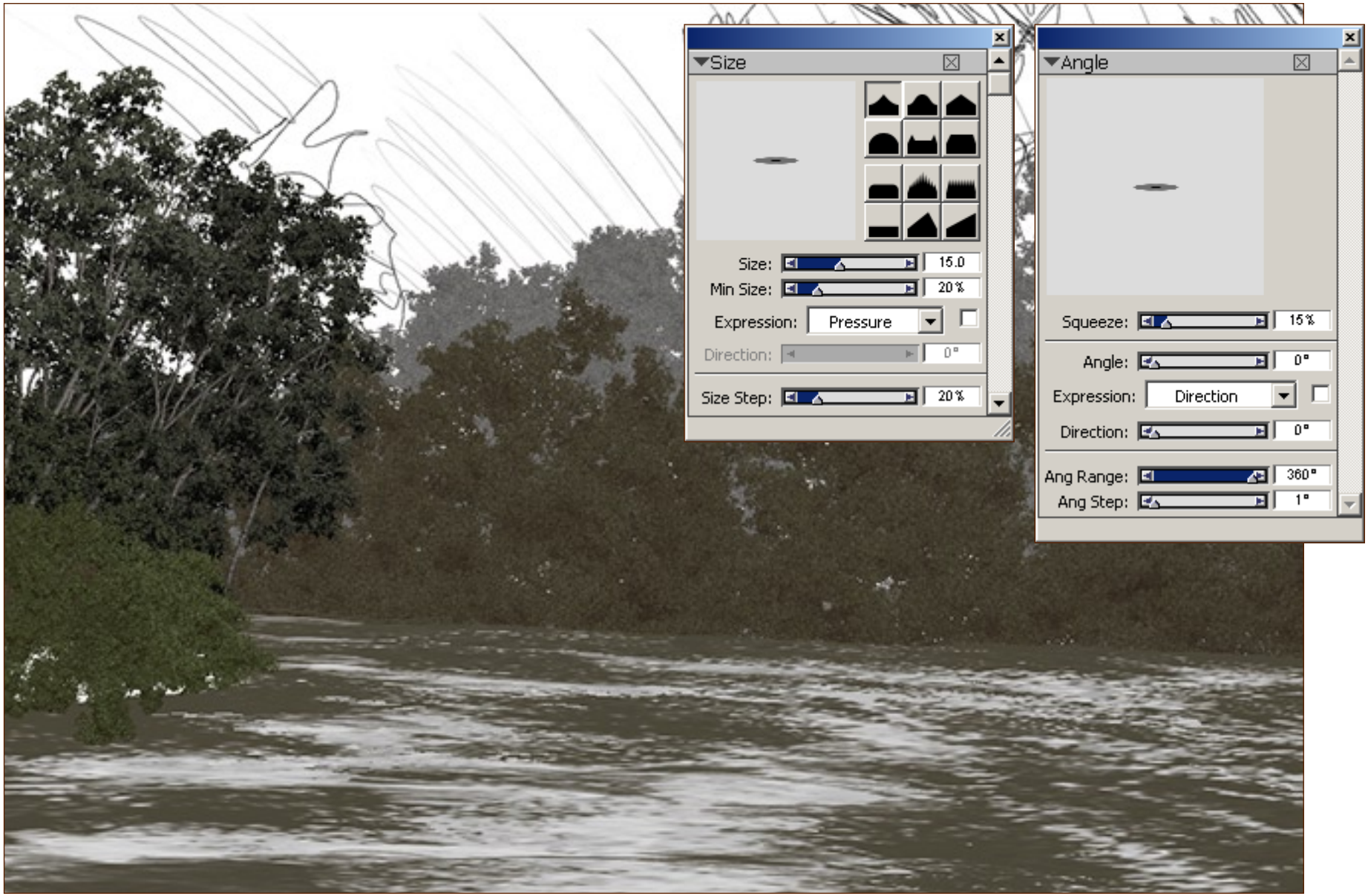
12) If you used the shadowed "H" paint on the trees, this may be a good time to save the file and open it in Photoshop. Simply save the file as a .PSD file type, open it in Photoshop and follow the instructions shown in the *Removing Shadows* tutorial (run the green extraction script to remove the shadows). If you are working in PSP, simply create a selection on each shadowed layer based on opacity. Remember, when a foliage layer overlays other foliage as it does with the undergrowth, the shadows don't need to be removed.



13) The river provides an opportunity to better establish perspective. In fact, establishing the river at an earlier stage might be helpful to determining leaf size or foliage scale. Here, the river came later. Even so, at this stage it mostly serves to reinforce perspective and to help gage relative scale within the scene. Save a new iteration of the painting.

14) The shape and highlighting on the water's surface further accentuate perspective. This example uses a simple soft edged, pressure sensitive cover brush to create the ripples (the settings are shown below). The result is then smoothed using a Blender: Smear brush with similar settings. If you have a better technique for water, use it.

15) I opted for completely different solution as the painting progressed. So, don't invest too much time on the river now. The trees, forests and undergrowth need to be completed first in order to provide a more accurate reference for the reflections and rippled distortions that will appear on the waters surface. There is a simpler solution as well.

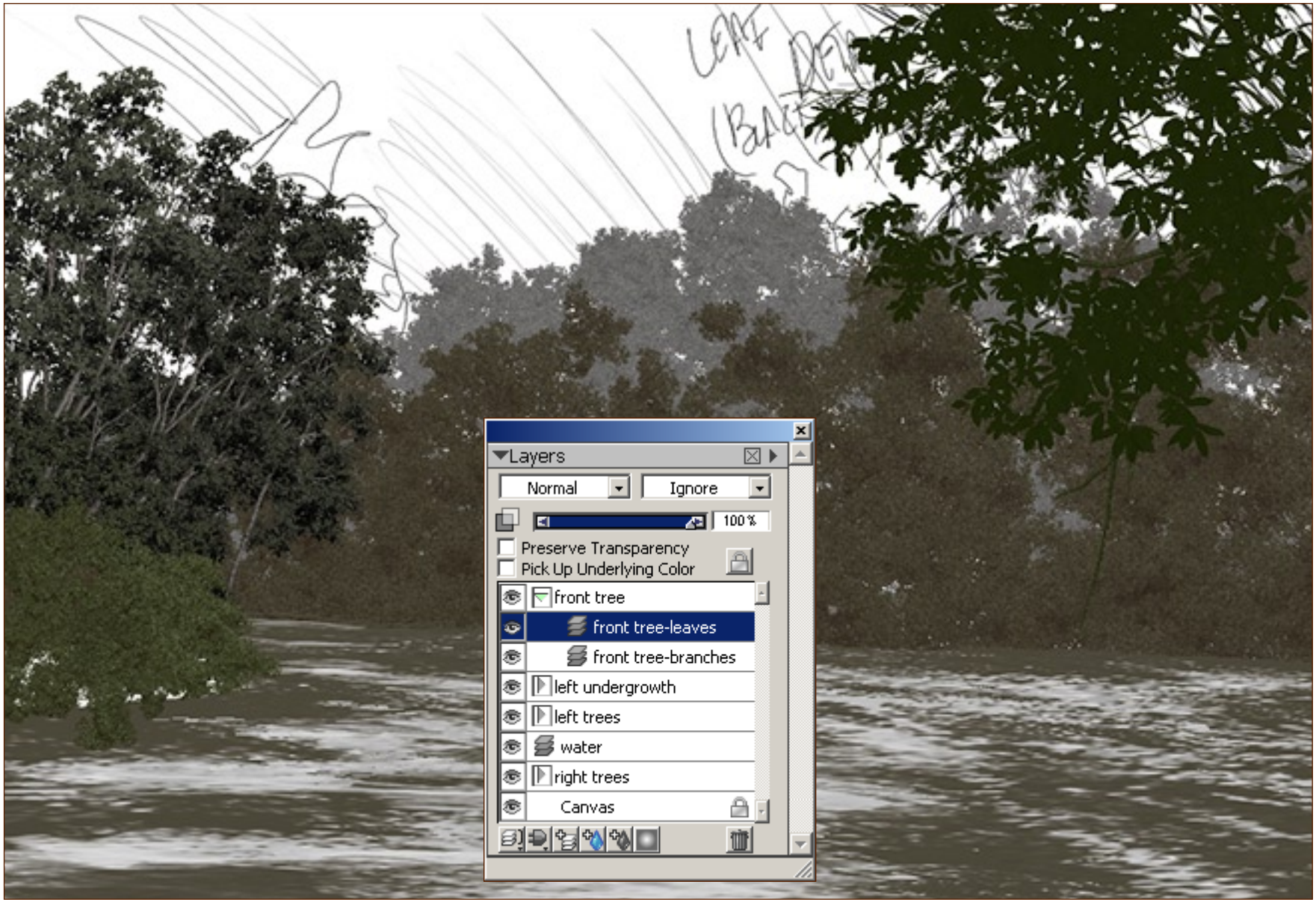


16) The next component is the foreground tree canopy that bleeds from the right. While the interplay between leaves and branches can always involve multiple layers, here the underneath point of view and dim ambient lighting renders them almost indistinguishable and silhouetted. You do not need a shadowed version of the paint in other words.

17) Select the Image Hose or Picture Tube brush and load the Tropics (big tree leaves) paint. Be sure to adjust leaf scale and enlarge the leaves as you paint from back to front. .

18) Painter users can change the brush Angle setting to control the direction leaf clusters paint. In this case, the leaves are seen from beneath and mostly point in one direction. Angle lets you do this. If you are using PSP, Gimp or Photoshop, you may have to paint or composite small groups of leaves together and use a transform tool to change angle or size.

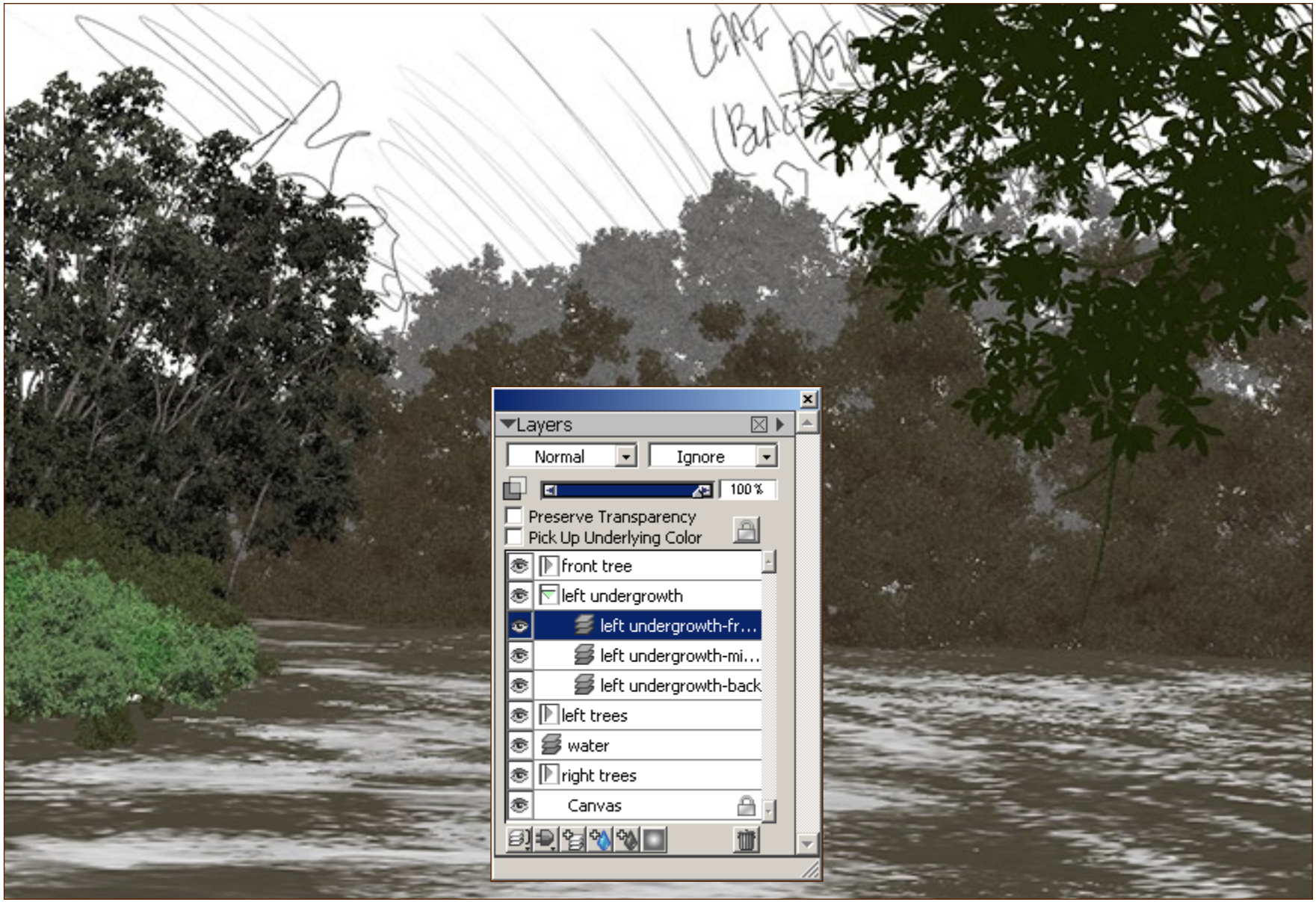
19) After painting the leaves, select the Masked Pattern Pen brush and paint the connecting limbs and branches on a separate layer. PSP users can use the Limbs & Branches layers.



20) The basic composition is complete. Moreover, it can be a relatively simple process. The primary task is to control foliage spacing and leaf scale relative to perspective. The inherent nature of the paints automatically establishes a foundation of detail. That frees you to pursue other aspects of the composition, but only so long as you remain attentive to the relative scale of things. Having a tree at the right scale for the composition is of little value if the leaves are too big for a tree that size. Similarly, loose spacing keeps the foliage open.

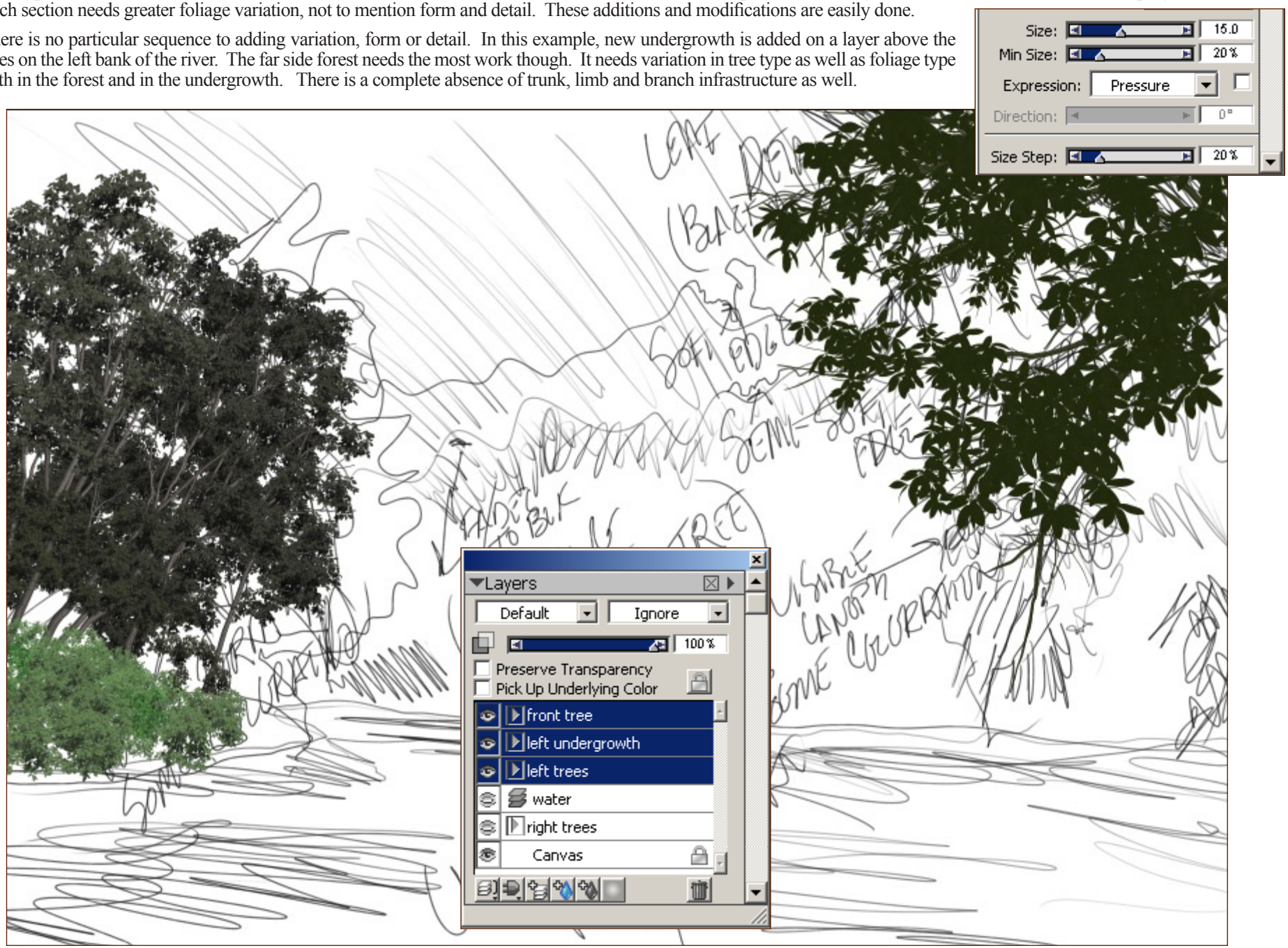
(Jungle DVD user tip: There's no free lunch. The tree line paint is a derivative of a pyracantha paint, of all things. This hybridized pyracantha paint came into being because it created the specific look of this particular forest better than the others I tested. That new paint had to be "mixed" first, however, which meant creating a unique solution.)

21) With the basic composition complete, the next phase is building form while adding detail. The example begins by using a combination of the Tropics-2, Tropics-3 and Tropics-4 paints to build on the forest undergrowth. Below, you can see how the assorted paints are mixed as a single application on one layer before being darkened.



22) Here is the image with the background forest, river and preliminary undergrowth layers turned off. The new undergrowth layer demonstrates the technique for adding detail, form and variation. It operates on a variety of levels. For example, the far side forest is missing infrastructure like trunks, limbs and branches. Similarly, the undergrowth is a single plant type. The leaves are too uniform in other words. The same is true for the forest line. It is all one species. The foreground tree could benefit from a drooping branch as well. Each section needs greater foliage variation, not to mention form and detail. These additions and modifications are easily done.

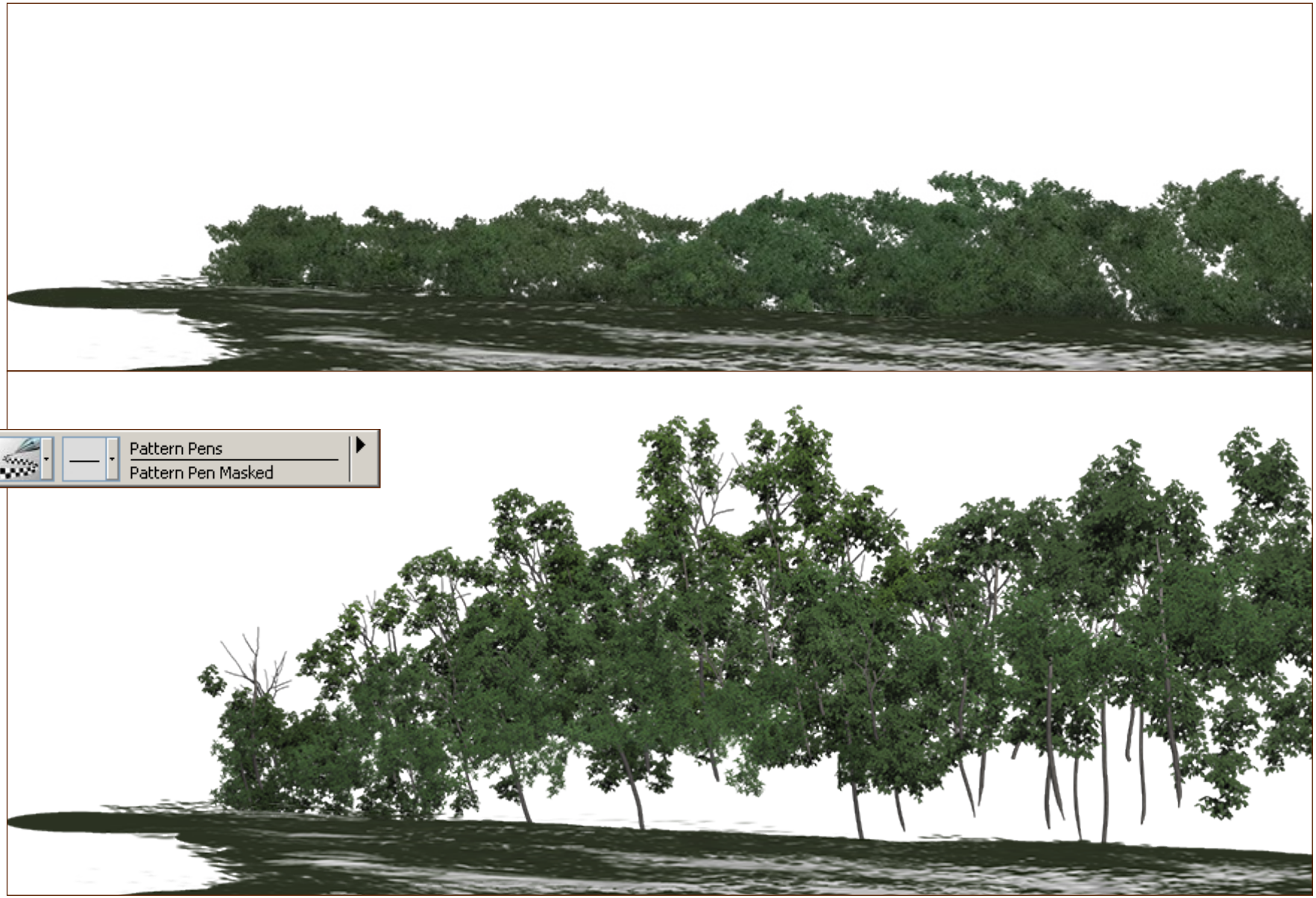
23) There is no particular sequence to adding variation, form or detail. In this example, new undergrowth is added on a layer above the trees on the left bank of the river. The far side forest needs the most work though. It needs variation in tree type as well as foliage type both in the forest and in the undergrowth. There is a complete absence of trunk, limb and branch infrastructure as well.



24) The examples below show how to begin adding variation and form to the undergrowth along the river's edge. A new undergrowth layer is added above the background forest. The Tropics-2 (sm forest) paint lays the foundation. Use the Tropics-3 (lg shrub)_H and Tropics-4 (sm shrub)_H to provide additional form and detail on a layer above it. Create isolated plant types by using the Tropics-6 (lg broadleaf) paint. The idea is to add naturalistic variations. Just remember to adjust size appropriate to the scale and perspective.

25) When you are done with the undergrowth, create a new layer beneath or behind it. Choose the Tropics-1 (sm tree) paint and spray a loose application of foliage to establish a new foreground tree line. Make sure you leave open areas so the background forest remains visible behind the new tree. That adds visual depth to the scene.

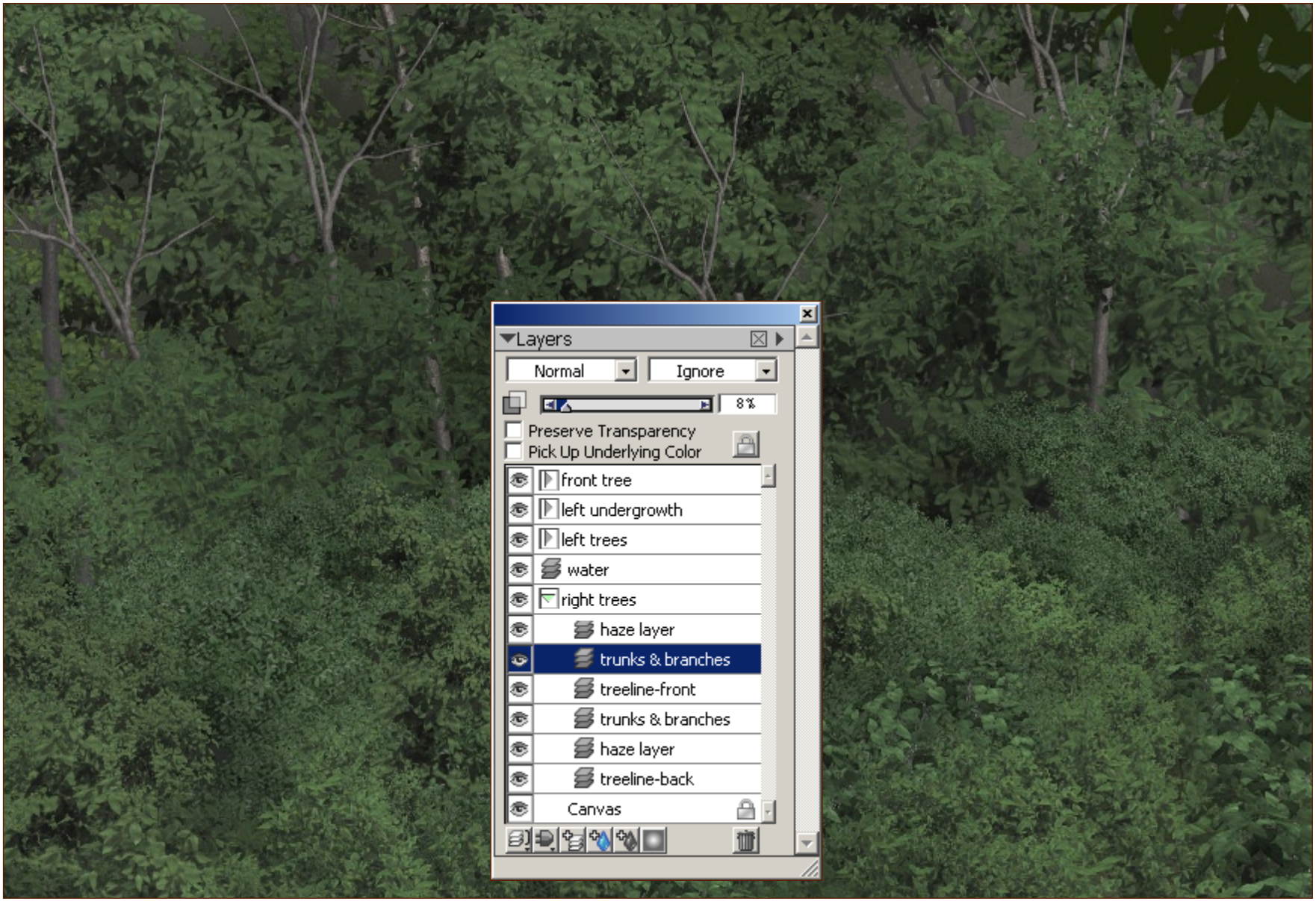
26) Next, add one or more layers behind the new tree line and paint in trunk, limb and branch infrastructure to match the foliage. Once you have them painted, add shadows using Preserve Transparency to confine the shading to the trunks and branches only. Darken for ambient lighting too. (If you are using Painter, select the Masked Pattern Pen again and



adjust size. You want a Size = Pressure brush so the trunks taper with pen pressure. Change brush expression to None when adding the branches and adjust size as appropriate for the scale. PSP, PhotoImpact, Gimp and Photoshop users can use the included trunk layers or simply paint them in using traditional methods.)

27) The new variation of foliage types is apparent in this detail taken from the 2,500 pixel original. The lower right shows the vine found in the Tropics-6 (broad-leaf) paint. The bottom left corner shows the Tropics-3 (lg shrub) paint. A smaller application is adjacent to it Just above them is an application the Tropics-2 (small forests) paint. Between the two branches on the upper left are Tropic-1 (big leaves). These foliage differences appear incidental now because the shading is uniform. They will become increasingly distinct as highlighting and shading techniques are applied to enhance form.

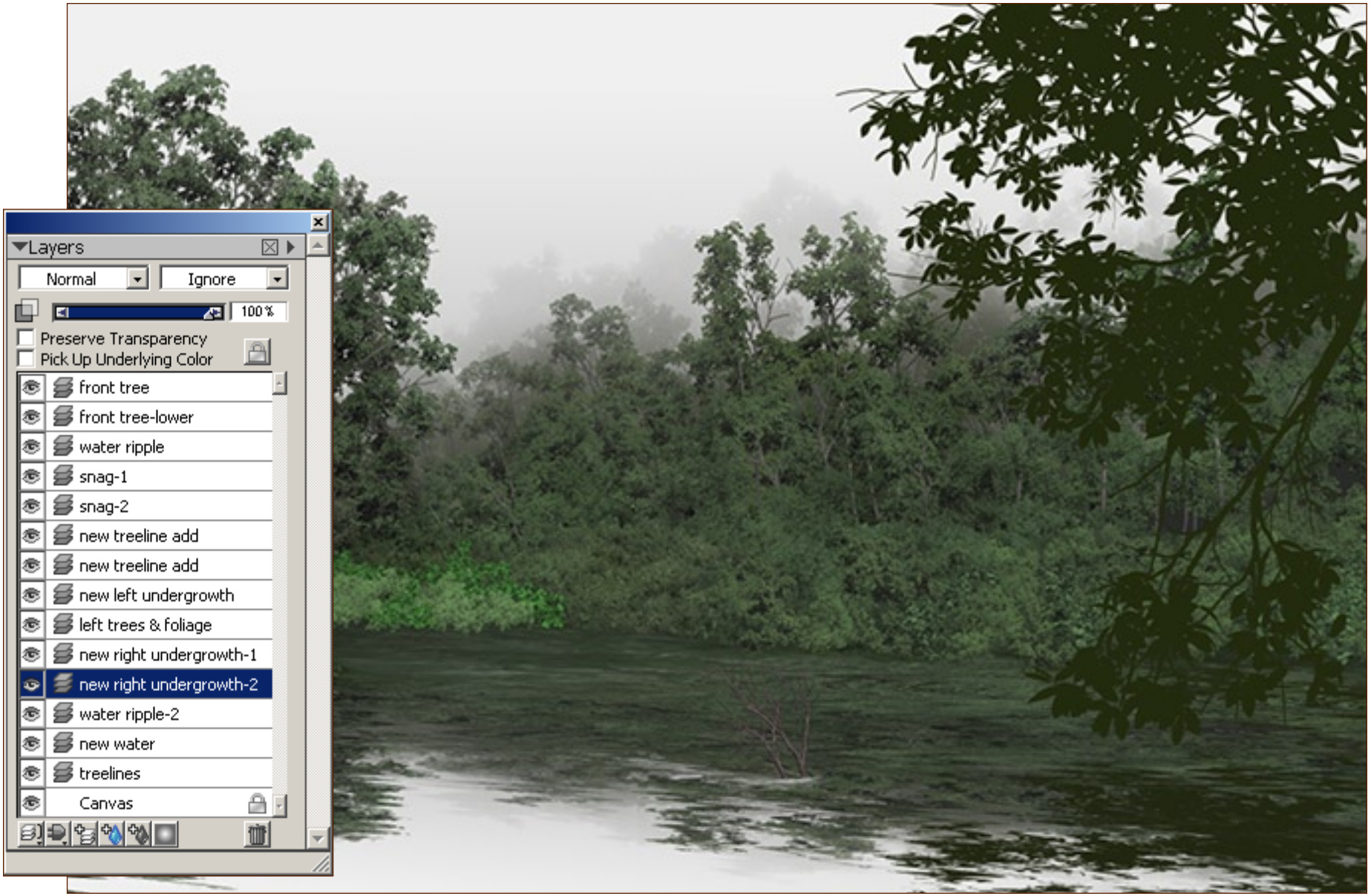
28) Now is a good time to balance lighting between the tree lines. The haze layers help define the diffusion of light between the two tree lines. So, use layer opacity to change the



influence of the haze. A large airbrush or soft eraser can vary the concentration of haze on a layer. Since you are separating the tree lines in space, more haze is better than less. In fact, this scene used multiple haze layers to darken ambient light at the forest floor or build mist near the tree tops along the various forest lines.

29) It is also a good time to paint shadows on underlying foliage. Simply use Preserve Transparency when using the shadow paint. Turn Preserve Transparency off when you are done. Then collapse the tree lines layer group to one layer. Do the same with the left tree and undergrowth and the right foreground.

30) The composition is mostly fixed. The rest is detailing. For example, several changes are apparent in the image below. The obvious areas of change are the overall lightening, the new river and the addition of two types of undergrowth on the left river edge. Less apparent areas of detailing include new types of trees along the tree line, differing kinds of undergrowth along the river's edge, a drooping branch from the foreground tree, the new river and the addition of a snag, not to mention the ripples the snag creates.

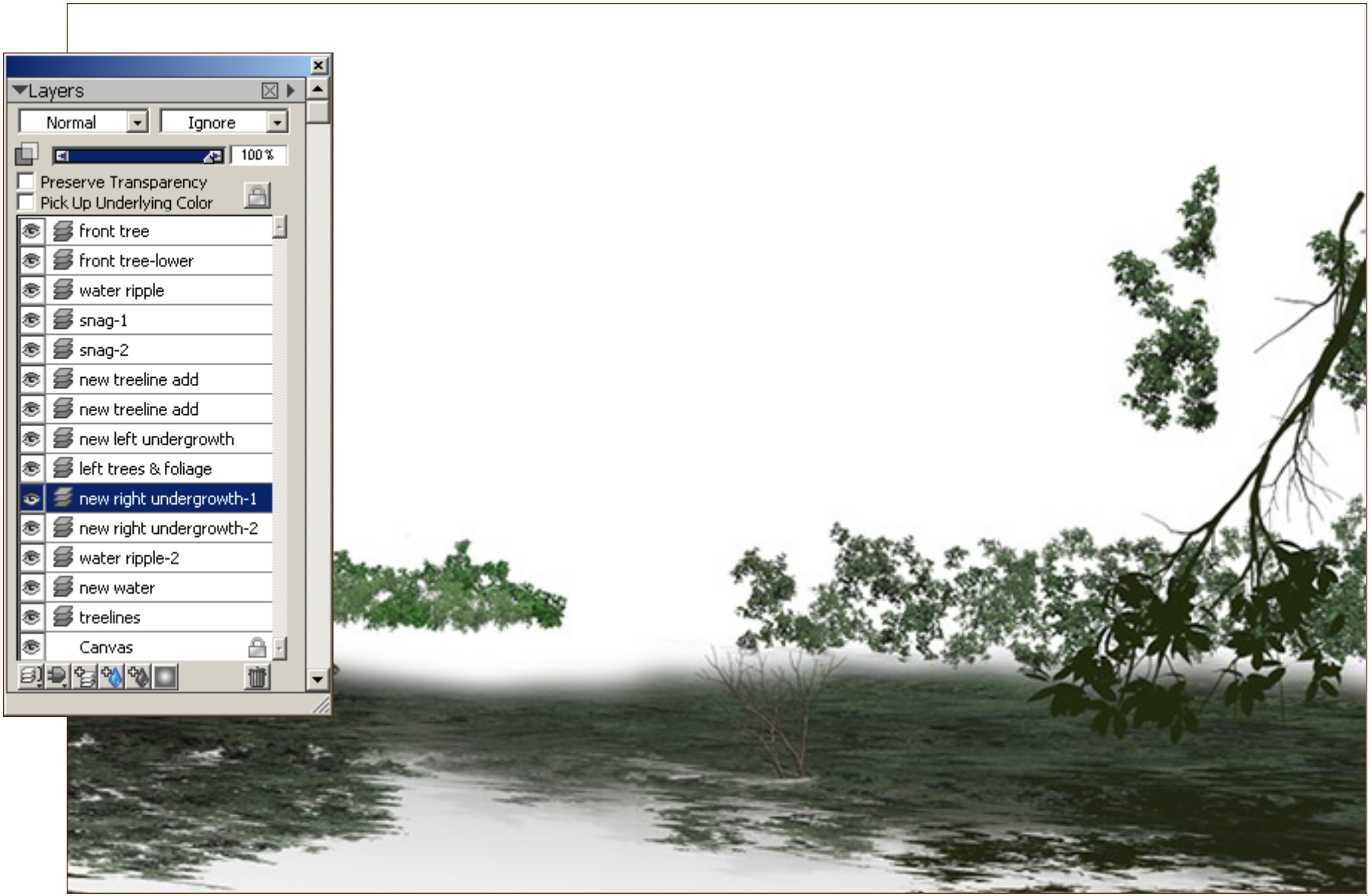


31) The assorted detailing below is shown below without the assorted collapsed layer groups made invisible. Some additional Tropics-1 (sm tree) detailing is visible where the new treeline was added. It shows how easily touch-up is done to fill gaps or enhance the composition.

32) New undergrowth is visible as well. Notice that the layer to the right is less dense. The purpose there was not to cover what was beneath, but to add more variation to it.

33) A drooping branch layer is added to the beneath the foreground tree. A new snag is apparent in the river as well. A simple brush adds water ripples in front and behind the snag.

34) The new river is distinct from the earlier version and was made by duplicating the complete image as a single flattened layer. That image was flipped vertically and a Transform or Distort tool used to flatten and taper the it to fit the linear perspective. Photoshop's ripple filter and a Painter a distortion brush created the rippled distortions.



35) What remains are color related adjustments to further emphasize form and texture. Here is where the rough Painter image enters at its final stage in Photoshop. You do not have to use Photoshop. Painter, PSP and Gimp can do all of these same things. Note that the spatial arrangement of fore, mid and background elements is mostly fixed.

36) Collapse the assorted layers to the extent possible. The foreground tree can become one layer. The left trees and undergrowth can make another layer. The river is another layer as are the snag and two related ripples. Unless you plan to bring in a Terragen mountain range, collapse the tree line and undergrowth with the sky. Save as a new iteration.

37) The contrast is flat and the color too monochromatic. The problem is how to tune contrast and color variation while enhancing form and texture. The obvious choice is to use Levels, Curves or Brightness/Contrast. Photoshop is particularly good at this. Moreover, the application of these effects is easily enhanced by using feathered selections to isolate areas for change. A pre-feathered lasso tool can be a particularly effective as you can quickly draw areas where you want to emphasize form and texture. PSP can do this too.

38) After adjusting areas of the image based on feather selections, assorted Photoshop brushes like dodge, burn, saturation, cloning and erasers provided additional detailed variations. To increase texture variation, foliage types were emphasized using dodge and saturation brushes. Flat looking areas of undergrowth had form added using these same brushes. The tree trunks were reddened and saturated to enliven the forest. Burn and cloning brushes increased the look of overhanging foliage along the rivers edge.

39) Cloning brushes corrected a variety of other problems as well, particularly where foliage didn't match, was too uniform in type or didn't appear to connect to the plant. An irregular nibbed eraser brush allowed sections of undergrowth to be removed so darker undergrowth would become visible from underneath.

40) After cleaning up and detailing the image, save the image as yet another iteration. Now merge the remaining layers into on single layer and save that iteration. Open this last version in Painter where you can use the various cloning brushes to unify the assorted textures with a common characteristic.

41) Our initial print proofing led to additional color corrections involving saturation and contrast. Greens moved towards yellow. Image saturation and contrast increased as well. The foreground tree was darkened relative to the rest of the image. (All of this is happening in Windows gamma, so the image below will likely look too dark for Mac users.)

Similarly, proofing demonstrated some screen patterning in areas of fine detail along the tree line background. A Painter cloning brush corrected the problem by unifying the character of the media. Of course, these are all subjective creative decisions. Your job is to make the image look the way you want. These are nothing more than tips on how this particular image came into being and how we resolved certain issues when printing at 13" by 16" on an Epson 7600.

Finally, explore, invent and enjoy yourself. It's a new way of painting. Experimenting is half the fun.

Terraformers using Terragen, Vue or Bryce to introduce a render might approach the final stages of the painting differently. They would preserve the sky or mist as layer(s) separate from the forest. That would allow them to include a mountain range as appearing above or within the mist.

For information on professional versions of these and other paint sets, please visit *DigArts Software*.