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* Making Rivers & Water Falls *

Several different methods are used to make this focal point of the layout. All the techniques are explained along with helpful hints and tips.

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White water is a key scenic element in a lot of model railroads. These layout contains waterfalls, ponds, a river, and a large wind swept lake. I like to try new methods for creating water scenes and over time many new products have come along to try. The creation of water for your model train set. There are 5 different techniques/ products:

1. Woodland Scenics EZ water for ponds
2. Clear acrylic calk for waterfalls and fast moving streams
3. Resin for a mountain stream
4. Woodland Scenics new Water Effects & Realistic Water for a raging river, a lazy river, and a wind swept lake
5. Woodland Scenics new Water Effects & Realistic Water for a raging river and waterfall.

Woodland Scenics EZ Water for Ponds

One of the first techniques I tried was to use EZ Water to create a **pond** fed by a stream on a horse farm. Pond preparation involved "digging out" an 8" diameter area in the base and cover it with plaster soaked towels. Then I painted the bottom to be a brown muddy pond with brownish red. Since the pond was not to be a deep pond, not much difference in color from shore to middle was necessary. The sides of the pond have some small rocks and debris but was basically a clean muddy area that horses constantly traversed. One side of the pond has a small waterfall from a feeder stream coming out

of a hillside of trees and larger rocks and falling into the pond. The opposite side had some piled rocks as part of an hydro dam to a steam leading away form the pond and continuing across the ranch. The technique for creating both streams are discussed in the clear calk discussion later.

EZ Water comes as yellow pellets in a bag. The pellets were melted in a tin can at high heat that had been placed in an old saucepan on the stove. As soon as the pellets were all in liquid form, I poured the liquid into the pond. The EZ Water can be re-melted with a heat gun, if necessary. Because the EZ Water cooled with a smooth surface and I needed a rippling affect of waves spreading out from the incoming water from the waterfall, I spread clear caulk as waves on top of the pond. A little dry brushing with white acrylic paint near the waterfall completed the project. There was no noticeable smell with this technique.

All the materials are readily available and easy to use. You might have to find your own used can for heating some of the materials.

Clear Acrylic Latex Caulk for Streams and Waterfalls

The technique that I have found to be the easiest for streams and waterfalls and is not very expensive is to use clear acrylic latex caulk found in your local stores. I use the brand DAP.

In my preparation of a **fast moving stream**, I form the streambed with plaster soaked towels followed by painting the "water" color on the bottom. I have the lighter colors near the edge and darker colors near the center. I place rocks, tree branches, tires, etc. in the stream. Once the streambed is finished, it is time to add the water. Mountain streams are fast moving so flat water is not desirable.

Because it is thick, caulk is easily spread along a streambed to create **rapids**, simulating fast moving water. The caulk is easy to work with by using your fingers or a stick to simulate flow around rocks and logs or drops in elevation for small waterfalls. The caulk comes out white from the tube but dries clear. After the water has dried, a little dry brushing with white paint can highlight wave tops, rapids, and swirling water near rocks, logs, or small waterfall bottoms.

On my layout, I have two tall **waterfalls:** The Mystic Creek Falls and falls at the Falling Hidden Canyon Bridge.

· The Mystic Creek Falls is an 85 scale foot waterfall coming over a cliff behind a curved trestle to the Yard. The waterfall structure was created by taking a 2"x12" piece of clear Plexiglas and running beads of clear caulk from top to bottom.

· The falls at the Falling Hidden Canyon Bridge is a narrow 60 scale feet waterfall coming out of a mountain cave as the beginning of a series of waterfalls by the bridge. The waterfall structure was created by taking a 1.5"x7" piece of clear Plexiglas and running beads of clear caulk from top to bottom.

Make sure you put a bead down the sides also in order to hide the edge of the Plexiglas. With the Plexiglas now covered, I put some caulk at the top and again at the base of the cliff. Then I stood the waterfall in place. More caulk was then added at the bottom to reflect the crashing water. I waited about 48 hours to let the caulk fully cure before adding any more caulk to fill in gaps I might have missed. Once the caulk is fully cured and ready for painting, I dry brushed the waterfall to reflect white foam and splashing water.

The high waterfall perfectly compliments the curved trestle. The space between the trestle and the waterfall further enhances the scene.

Clear Casting Resin for Streams and Rivers

I used foam contours with the streambed curving through the area formed by plaster soaked towels. I painted the shallow stream bottom shades of brownish red clay, added lots of 'rocks", fallen logs (actual twigs), and debris.

I found a **Clear Casting Resin** product by castin'craft, primarily used for creating paperweights and ice cubes with items 'locked' inside. I used this for the stream above Mystic Creek Falls. I used an old plastic butter dish and a wooden stirring rod to mix them up. The resin cures smooth but my stream had lots of little pockets and eddies around rocks that I was able to dry brush a little white to indicate motion.

The one drawback to a resin approach is that it is very **aromatic**. Being that I was doing it on a diorama, I was able to do it in the garage rather than inside in my layout room. The fumes are a little overpowering, so make sure you have proper breathing apparatus handy, especially if you are mixing up large amounts.

Here's the middle part of the falls scene with some locals enjoying the water on a hot day. The passing trains don't seem to bother the bathers and not everyone notices the person behind the waterfall.

Realistic Water for Windswept Lakes and Slow Moving Rivers

In the Woodland Scenics product Realistic Water, I found an easy to use non-aromatic option to using resin. The large lake needed to be modeled with some windswept waves, some shoreline, and the lake water that was quickly getting deeper as distance from the shoreline. I only model about 75' out from the shoreline and about 400' of shoreline beneath the Falling Hidden Canyon Bridge and nearby cliffs.

The **lake surface** was a flat piece of solid pegboard material covered by plaster soaked towels. By using the towels, I actually created a random shaped rough surface for the lake rather than a 'sheet of glass' surface. I mixed different shades of medium blue, dark blue, and green paint making up 3-5 **shades of water**. I then 'dab' painted the water surface blending in the colors to reflect shallow areas of lighter blue around bridge 'concrete' bases and rocky shoreline and darker areas heading into open Hidden Canyon. The paintbrush was one of those special brushes that are 1.5' wide but has a very narrow single row of bristles. This was also real handy when it came to dry brushing **wave tops** approaching the shore from out on the lake.

The easy part was the pouring and spreading with a regular ½" paintbrush the Woodland Scenics Realistic Water over the painted water surface. Since the **lake surface** was already 'rough', I didn't need to create ripples with the water material and didn't need to pour very much as I only needed it to be 'painting thickness". Of course, Realistic Water is intended to settle flat anyway which was fine by me. Cleanup is easy as it's water-soluble.

For another slow moving muddy river by a Power Plant, I painted the bottom shades of brown with a few rocks near the shore and one outflow pipe from the power plant dropping into the river. For the river surface, I used Woodland Scenics Realistic Water. For the water outflow, I used clear acrylic caulk and dry brushed it white.

This is the bottom of the lower falls, below the trestle. Good rockwork, water and careful painting make the scene very realistic.

Realistic Water & Water Effects for White Water Rivers

The Spring River is a raging white water river that runs through the heart of the W&V. it splits and merges in some gorges and runs beneath 4 different bridges. It has rafters & kayakers (but is too rough for canoeists) traversing the waves and drops. The shoreline of the Spring River is very rocky and steep which funnels the water through the area.

I used very similar bottom preparation techniques for the Spring River as the lake by Falling Hidden Canyon Bridge, except I formed more rough areas and multiple 2-4 scale foot drops, creating white water locations.

After I painted the bottom with medium and dark blues, I did a lot of dry brushing of white for all the tops of waves and plunging waterfall drops. Then I "painted" the bottom with the Woodland Scenics product Realistic Water.

Because I wanted raging water, I expected to use the Woodland Scenics product Water Effects a lot to create rough water. So I addressed the rougher areas and spread on Woodland Scenics product Water Effects. Water Effects appears to be a thicker version of Realistic Water. It holds its body and allows you to make raised areas for ripples and shapes of wavelets. When it came to making "piles" of water at bottoms of drops, I still had to rely on the clear acrylic caulk as Water Effects didn't hold enough shape. After applying the water, I dry brushed the tops of waves to reflect fast moving water.

These kayakers are about to plunge over a small waterfall and off the edge of the layout. Just as we try to create scene that convince the viewer the trains are going somewhere, it's easy to believe these boaters are moving downstream and over the falls.

Careful preparation makes the slow moving stream look great.

Conclusion

I really like the Woodland Scenics Realistic Water and it would be my choice for flat water or slow moving water. I would rather use it than a resin. The Woodland Scenics Water Effects is now my choice for making flat water have some shape and wave character. My choice for waterfalls continues to be clear acrylic caulk. I will probably try using up the rest of the EZ Water since I have it, but Realistic Water is so much easier to use, I would switch to that.