

## ***Special Visual Effects Statement- The Lovely Bones***

The majority of the visual effects work for *The Lovely Bones* occurs in Susie's 'Heaven' sequences. Although technology played an important role in the VFX work, the major challenges for the visual effects work in this film were creative rather than technical.

### ***'Heaven' Visual Effects:***

To visualize Susie's 'Heaven' we created a wide variety of different looks, digital props and lighting effects in collaboration with the director. The environment was constructed out of visual cues and ideas from the real world Susie was leaving to make the 'heaven' both comforting and surreal. It's a mix of motifs and ideas that are familiar to her, but which are arranged in way that is not under her control.

Susie's semi-cosmic journey to 'Heaven' is entirely digital. We were asked to create a sense of souls travelling to another place. Susie arrests her journey by grabbing on to a flower.

A lot of the visual effects work was done using matte paintings projected on to 3D geometry which was then enhanced with a variety of particle effects, fluid simulations and composited photographic elements. For the scene where Susie sinks into the barley ocean, we created a fully digital field of barley that behaved like an ocean storm. Susie was shot in a water tank on a blue-screen stage and then composited into the digital environment.

For the 'ships in bottles' scene we created digital ships and bottles balancing the scale of the ships with a design that would reference back to the miniature ships in bottles that Susie had made with her father. We animated the flying pieces of the breaking bottles with key-frame animation to give us the maximum control of the shape and detail of the destruction.

To make Susie's 'perfect day' we created a large variety of 3D digital sets, animated props and lighting effects from a giant cherry blossom garden globe in the sky, to animal topiaries, giant ice sculptures, digital doubles of Susie and Holly on a sled, and a blooming camellia under the ice.

Susie's gazebo in 'Heaven' eventually rots and is swallowed into the ground. For these shots we created a digital gazebo and then destroyed it using a combination of keyframe animation and dynamic simulations.

The scene where Susie is confronted by all the other girls Mr Harvey has killed she shifts from a digital freeway with CG cars rushing by to a matte painting of a freeway underpass, to being underwater to a deserted swamp. Each scene required a different visual effects solution.

Susie eventually finds her way to wide 'Heaven'. Footage for this scene was a mixture of location and blue screen stage shots. The unveiling of 'Heaven' was a mixture of 2D compositing effects, animated matte paintings and 3D projections.

### *Real World Visual Effects*

As well as creating Susie's 'Heaven', we used visual effects to achieve practical effects such as creating a sinkhole in a rural field, adding a cornfield behind a suburban street, and adding exteriors to the house interior sets. In total, there are 663 visual effects shots in *The Lovely Bones*.