

Dragonflies...

Mastering 3D Graphics ~ issue #4

from basic model to naturalistic scene Painter 3D/RayDream Studio ~ Janet Glover

Dragonflies' fossils date back 300 million years. There are 5000 species of them all over the world, with 450 of them in North America. Their four wings move independent of each other, allowing them to fly in any direction. They are beneficial predators with legs that can capture and hold prey as they fly (1). My particular fondness for them aside from their beauty, is the incredible amount of mosquitoes that they consume; a major problem when your house is in the middle of a Michigan wetland area.



Requirements for this Tutorial

You may use Metacreations' Detailer instead of Painter 3D to paint the texture maps used on the Raydream models. However, Metacreations Painter 3D can open up the texture map and show you the placement of the mesh while Raydream is running.

Painter 3D allows for extremely detailed placement of veins and colors. It also has the 3D model in a window. You can move the model around, rotating it to the view most appropriate for your work. Zoom in, change the lighting, whatever you need in pursuit of the perfect texture; glow, bump (and more) maps.

Painter 3D runs concurrently with Raydream if you have enough Ram. If this is a problem, you will need to edit the maps with Raydream closed. I have not had problems running it on a Pentium 2 with 128 SDRAM, however it did crash on my P200 with 64Mb RAM.

RayDream Studio

I'm using a dragonfly model located on the MetaCreations RayDream Studio 5 CD. You can find it in the Dream Models/Nature folder. The details on the texture maps were basic, lacking any of the delicate, lacy wing detail that I so admire. A shader was used to add a textured effect to the model, which looked like little bubbles. When

you paint the texture map in Painter 3D you are not altering the shader that is used on the model. You are simply adding a texture map on top of it. I deleted this original shader because it conflicted with my bump map, wiping out most of the clarity and detail.

My resource for the wing detail was the "The Audubon Society Field Guide to North American Insects and Spiders" by Milne and Milne. If you look at a good resource book, you will find that there is quite a variation in the body types and coloration of the dragonfly (or damselfly). Some of these insects have very long narrow abdomens while others have fatter, more obviously segmented tail-like appendages. Changing the Abdomen of the model is quite easy and I will be covering that procedure later on.

Running Painter 3D concurrently with Ray Dream 5

Requirements:

Ray Dream Studio 5.0.2 or later

Ray Dream 3D 1.0.2 or later

If you need to update to one of these, use the updates/patches **BEFORE** installing Painter 3D or the extensions will not recognize the presence of your version of Raydream. To install the Painter 3D extensions, select Custom install after running setup.exe, choose Ray Dream Extensions and point it to your Ray Dream directory.

The following files will be added: Cvoodoo.DTA, Cvoodoo.RDX (Detailer 1 save/export) and in the Painter3D folder in the Extensions cDetMod.DTA, cDetMod.RDX (Painter 3D transfer) CP3D.DTA and CP3D.RDX (Painter 3D save/export). You may delete these files in Raydream and restart if you wish to uninstall them. If you receive any errors when attempting to paint a Raydream model, you will need to reinstall everything. I did and with all of Ray Dreams' extensions it's no picnic!

Setting Preferences

Figure 1. This is where you choose your settings for Painter 3D in Raydream. I like to set the view size of the model to around 200 x 200; it uses the minimum of memory, yet allows you to see what you are doing. The following settings are what I have in my Raydream preferences for Painter 3D, **figure 2**.

Start up Raydream, select **Open a new scene** and import the Dragonfly model from the folder DREAM MODELS/NATURE on the CD. If Painter 3D doesn't load at startup and you want it to run at the same time, you need to select Win-

dows/Metacreations Painter 3D from the top toolbar. This will display the floating window somewhere on your desktop.

Save your scene as "Dragonfly" before you start painting. Select the Dragonfly model and in the Properties palette choose Parametric as the mapping mode. The only difference between Painter 3D and RayDream map types, is that the Texture (P3D) and Color (RD5) are the same map. They both support Bump, Highlight, Reflection and Glow maps.

To conserve your computer memory, it helps to send only the map you want to paint. The first attempt I made at painting an object, I selected the whole model before clicking on the Paint Object button. This sends every,

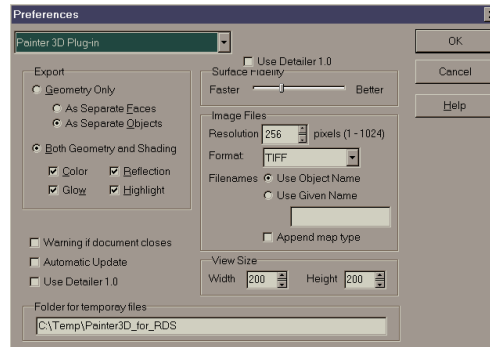


Figure 1

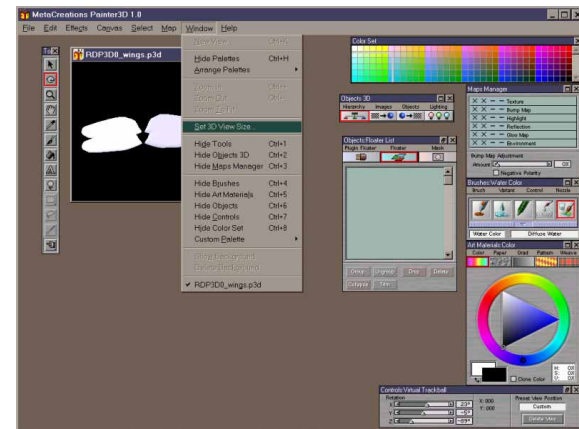


Figure 2

and I mean every map on the model to Painter 3D. It's unnecessary and takes too much time, memory and is a bit overwhelming. You want to select the wings only, all four of them! Do this in either the modeling window, or the timeline, ([figure 3](#)). Now, select **Paint Object** in the P3D window, which will boot up the Painter 3D interface.

Now that you are in Painter 3D

Make sure the 3d window is the size you feel comfortable with. Usually 200 x 200 will suffice without eating up all your memory. Move the model around to a perspective that helps you to see clearly the particular wing you intend to start painting. If you need to, zoom in with the magnifying icon. Select the paint-brush tool and click on the wing. This will bring up the **Apply Texture Maps** window, ([figure 4](#)).

Choose **New Image**, **Implicit mapping**, **Contents Blank** and

accept the Image size that is offered; click **OK**. As you can see in the image ([figure 5](#)) this example is showing a mesh of the model. Your map won't show the mesh until you click on the mesh selector at the top right of the window (circled).

On some models, the shape of the map will appear confusing, so it helps to draw some guide-lines to begin with. Start by making an outline of the most obvious feature, the exterior lines clearly visible within the mesh. In the next view you can see how the drawn lines arrange themselves on the model, ([figure 6](#)). I

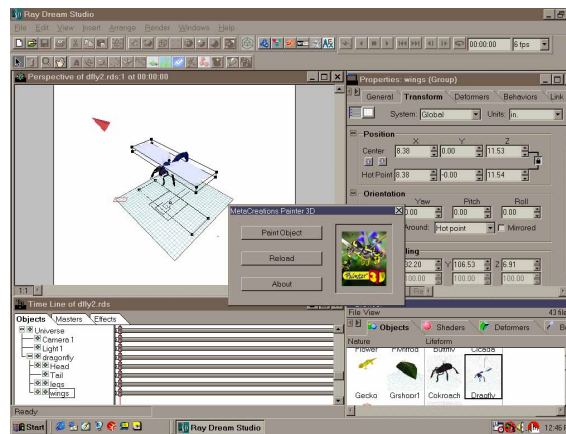


Figure 3

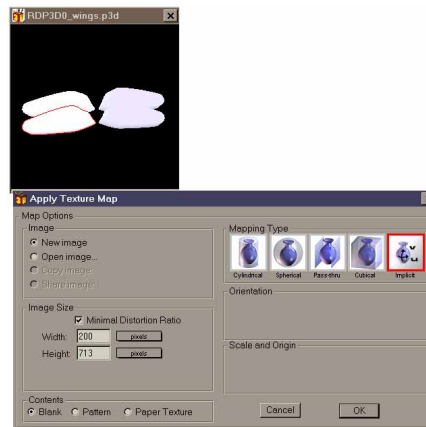


Figure 4

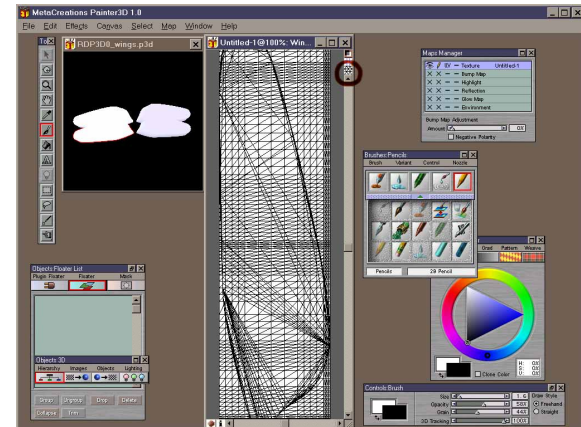


Figure 5

had expected that the section with the multiple lines would fall on the opposite side of the wing. Sometimes you feel that you're getting all turned around, I call it digital vertigo. So the next thing I did to re-orient myself, was to make a couple of marks on the model itself. Clicking on the model window to activate it, I used the number 2 pencil to make a few marks here and there, undoing the mark immediately after drawing it. When I was sure I knew which way was up, I went back to the map window and proceeded to add detail to the wing. Another thing I did was to turn off the mesh, because I found it terribly distracting in this view. After all, you have already outlined the perimeters of the wings.

Using the Number 2 Pencil tool, make vein-like lines throughout the wing. These need to make black and strong marks. Notice in the example, there are very dark lines, representing the larger vein-like markings. Thinner lines branch out from these. The thinner lines will be only barely perceptible in the final render, which is exactly what we are looking for.

The final application of the map on the wing in Raydream will be nearly transparent. You won't see any color that you might create here, unless you eliminate that transparency and you don't want to do that. What we are looking for is a delicate interpretation of the marks you make here.

(Figure 7) If you want to name the map, now is an excellent time. I named mine wing.tif. You may save the maps in RIF, JPG, TIF and BMP format, so it's really your own preference. I use whatever has worked in the past and not crashed my machine. Realistic, but a sad perspective!

Select the 3D-view window and click on another wing from the 3D-model view. The Apply Texture map win-

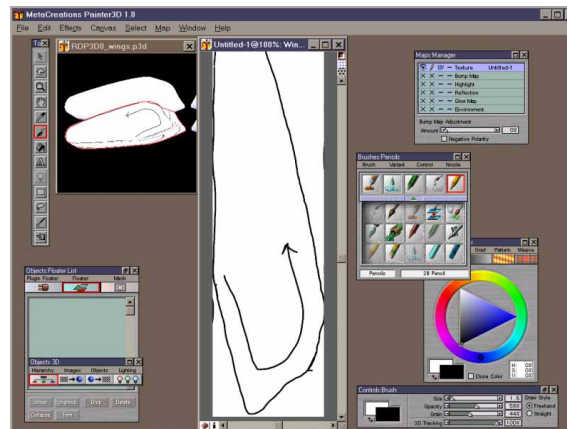


Figure 6

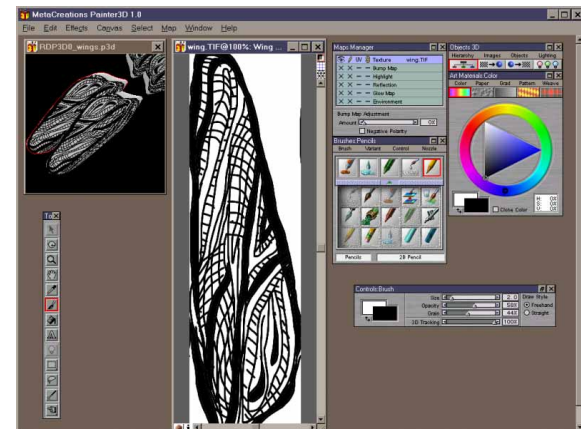


Figure 7

dow will appear again. This time you want to make choices that re-use the map you have just created. So you need to select **SHARE IMAGE**, **wing.tif** (or whatever you have named the previous map) and **IMPLICIT MAPPING**. Repeat this process with the remaining wings, (figure 8).

When you have finished placing the map on all of the wings, choose File menu/Save. Close the model window in Painter 3D, so that you can re-paint if necessary. If you don't close the model, Painter 3D tends not to reboot when you click on the **Paint Object** Button. At this point go to the RayDream interface and hit the **Reload** button, (figure 9).

Reloading your Maps

Well, I know, I keep calling this a texture map, but it's really going to be a bump map. As a texture map it just barely does the job. So I loaded it in the Bump channel. There it works just fine. The heavy black lines are exactly what we need.

- ♦ First make sure the Shader editor is open by selecting **Windows/Current Shader Editor**.
- ♦ Select a wing, go to the **Properties** box and select **Shading**.

- ♦ Select the Bump tab.
- ♦ Choose **Insert menu/Texture map** (figure 10).
- ♦ Select the icon that looks like a diskette and locate the file i.e. wing.tif; **Apply**.
- ♦ Go to the Color tab; click on the color window, which should bring up the color picker, (figure 11).

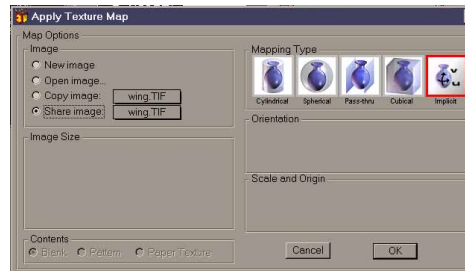


Figure 8

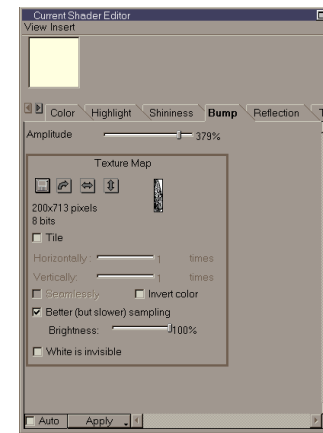


Figure 10

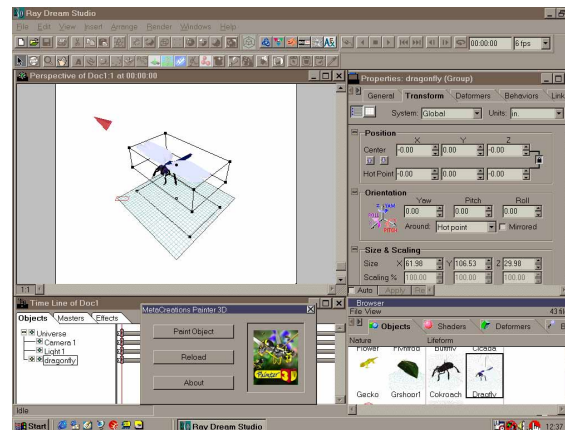


Figure 9

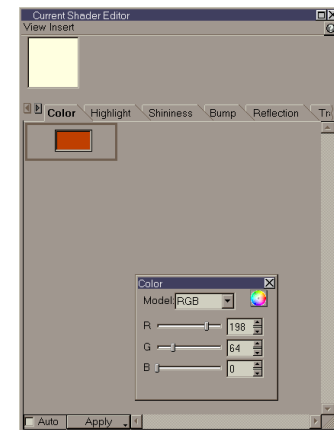


Figure 11

- ♦ Select something with a warm orange-brown; Apply.
- ♦ Do this on each wing until you have them all mapped and colored.

The Abdomen/ Tail segment

When I decided to tackle the Dragonfly, I was overwhelmed by the differences in body types, coloration and other factors exhibited by the numerous members of this species. I chose to use the Elisa Skimmer as a basis in this tutorial, but it's by no means an exact duplication. The tail/abdomen has lovely orange/red diamond segments that appealed to me. As you will see in the next part of this tutorial, accomplishing this task was daunting.

The model was just too narrow and I needed to fatten it up, (figure 12). Select the Abdomen/Tail in the timeline. Double-click on the tail in the modeling window or the timeline. You should now be in the Free Form Modeler.

Select the bottom plane. Click on the bottom cross section and add a couple of points on the Envelope description lines. Pull the added points outward to increase the girth of the abdomen. Now do the same on the right cross section. Accept the changes. Save your model (figure 13).

Slow streams, marshes and ponds are the breeding grounds for Dragonflies and Damselflies. The female dips the tip of her abdomen through the surface of the water

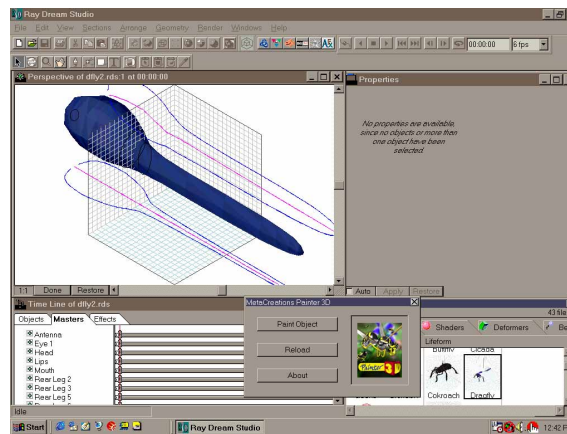


Figure 12

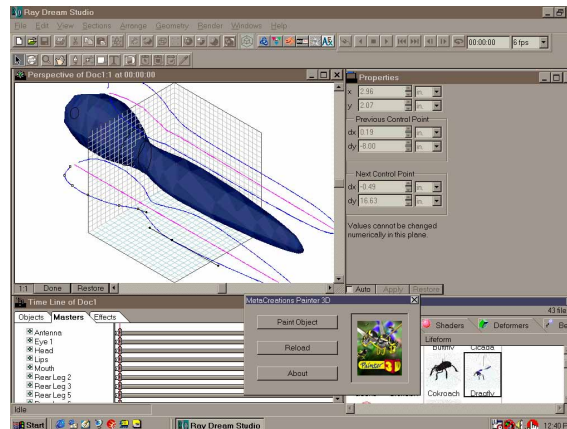


Figure 13

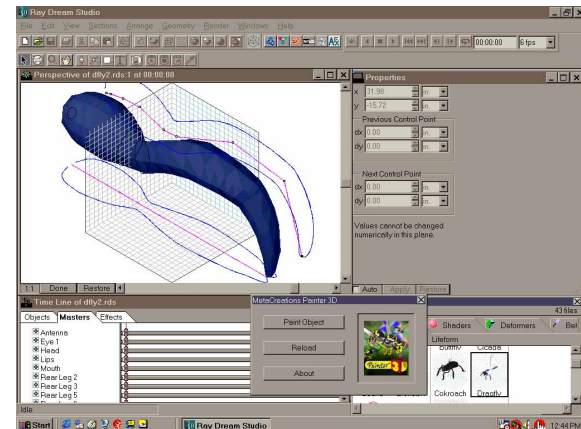


Figure 14

to deposit her eggs. To accomplish this we need to open up the Abdomen (i.e. tail) in the Free Form Modeler again. To bend the Abdomen, pull the center lines' point upward and the tips' point downward, (figure 14). This should be very easy and straightforward; you can move it around to get it just right! Only, don't change any of the points on the bottom plain. You can lengthen and narrow the model on the lower plane, but don't bend it sideways.

The texture map

The first problem arose with the texture map. It was not at all clear where the marks I made would end up on the model. As you can see, the mapping on the Abdomen forms a strange circular shape, (figure 15). It took many attempted marks before I found the area where the little diamond shapes were to be drawn. Also, it is extremely difficult to get a clear diamond shape due to the stretching of the map over the long tail

segment, (figure 16). Do the best you can, sometimes it's all you can do. Here is a finished version of the texture map that I came up with [abdomen.tif/jpg] (figure 17). I used the various paintbrushes available in Painter 3D to add a fullness of color to the map. Generally I like a fat dab of oil color that I can move around with the water brush afterwards. I have a tendency to work on the computer, in the same way I paint on canvas. This is where your personal preferences play a large part.

Save your map when you are satisfied with the look of it. Remem-

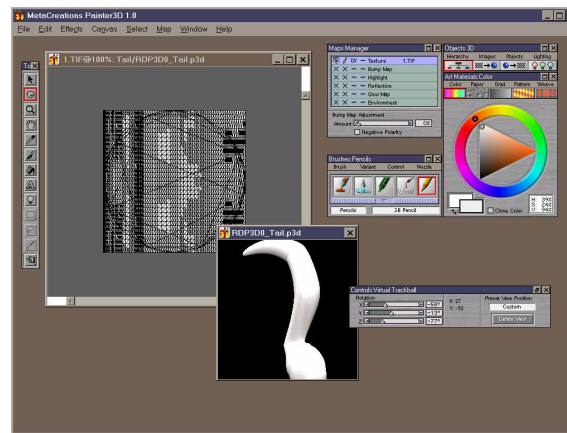


Figure 15

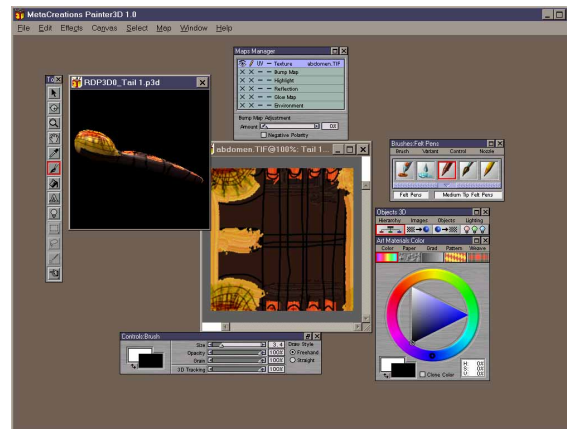


Figure 16



Figure 17

ber to move the 3D view around so that you don't get any unexpected surprises. This is especially important if you plan on creating a scene with the undersides of the insect visible in the camera view. Also, keep in mind the scale of the scene. Your detail is far more important if the bug is in full light and fills the frame.

Setting up the Landscape

I created two landforms with RayFlects Four Elements. Overlapping them helped to create a transition between the grassy-sand area and the sand, which dips under the water plane. The terrain settings can be viewed here, (figure 18). The shader I used was a Four Elements sand shader. For the green terrain, I made a composite of the sand shader and a grassy one, (figure 19).

The composition required a very close-up view of a pond or marsh bank. To achieve this I tilted the two terrain's, until each of them complimented the others nooks and crannies. I was aiming for as much realism and variation as I could

get out of the two surfaces. Looking at the scene from the left gives a better idea of how these terrains are tilted, (figure 20). When working on a scene, I always switch back and forth between camera views, usually the top and left (or right depending on the scene). From the top view you get



Figure 18

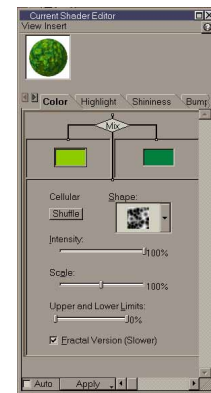


Figure 19

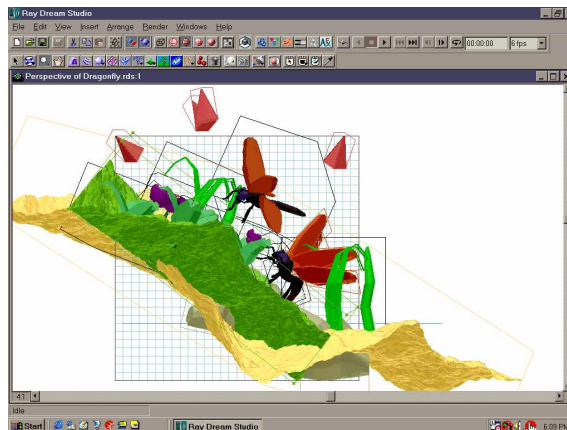


Figure 20

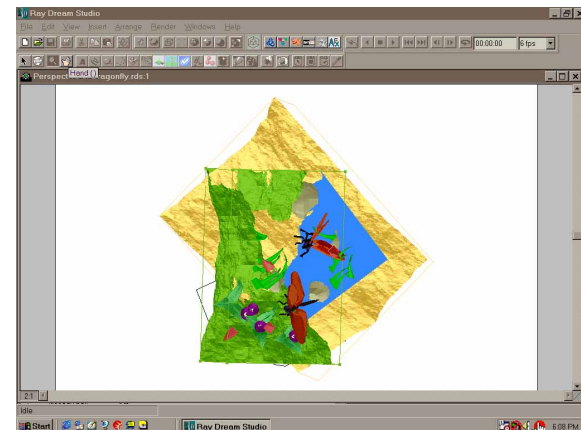


Figure 21

another perspective of how the elements in a scene are interacting, (figure 21).

When satisfied with the bank of the pond, I added the water plane. The water shader I used was also a Four Elements shader. To see the settings... (figure 22).

Ok, now you need to move things around. The camera view and all of the elements get into some complex interacting. Watch out for absurd sizes that may develop as you move the models around. Think about the foreground and how the eye moves around the scene. Add some plants. The grasses were created on the fly, by creating leaves in the Free Form Modeler, grouped them and a grass shader applied. Also, I used one of the Viewpoint models provided on the RayDream CD. The Tussock Bell flower added a nice bit of color, but didn't have any leaves. I was able to construct a decent one and quickly paint it in Painter 3D.

This can't be said enough! Remember to save your work. I haven't had any repetitive errors and crashes lately, but I've developed a real habit of saving my work. It helps to save your sanity on a long project where anything can go terribly wrong, incredibly fast.

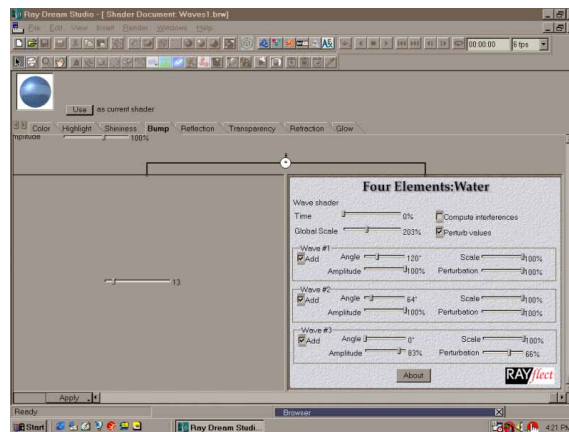


Figure 22

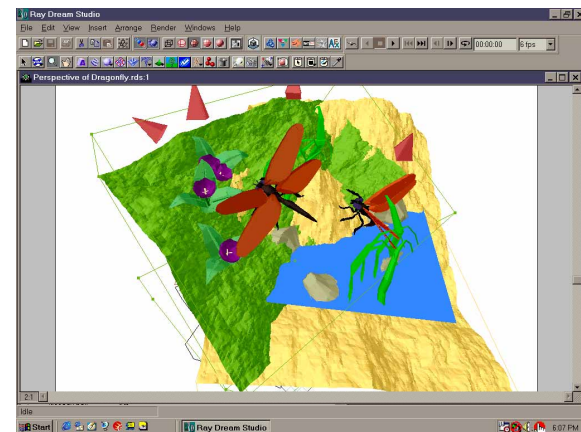


Figure 23

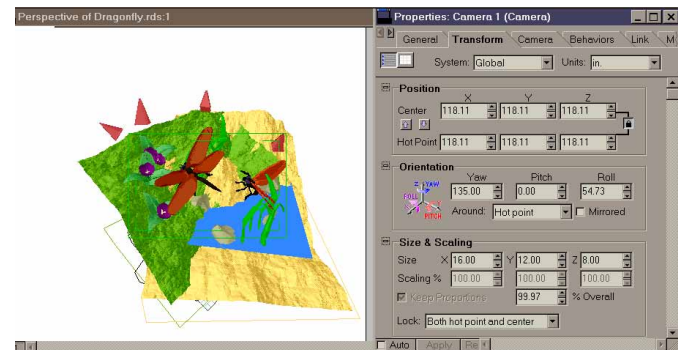


Figure 24

Camera Settings

Here is the final camera view and set up, (figure 23). My camera settings are boringly basic, a normal 50 mm (figure 24). I used the raytracer for my final render with every option turned on, (figure 25).

Lighting

In my experience micro-landscapes seem to require a lot of fussy light settings. You want to light up particular spots in the composition, yet keep good shadow formation. You can use gels to create mottled lighting, however this doesn't allow for very exacting light placements. I like to see different colors of light on objects. In nature, the color of the object you are looking at, is a product of what is next to it and how light or dark the objects are in comparison to one another.

“Color aesthetics may be approached from these three directions:

Impression (visually)

Expression (emotionally)

Construction (symbolically)” 2

I guess I like to try a little of all three in my work. There is no bad color just poorly placed color. For more information on Color Theory, I highly

recommend reading Joseph Albers “Interaction of Color” and Johannes Itten’s “The Art of Color” and the study companion “The Elements of Color”.

I used the Light Position Control handle to point the spot-

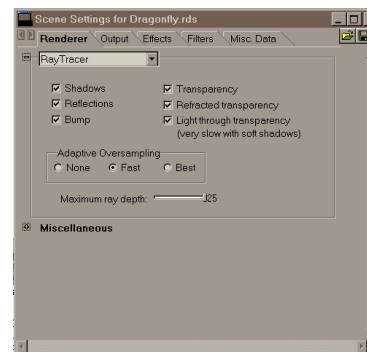


Figure 25

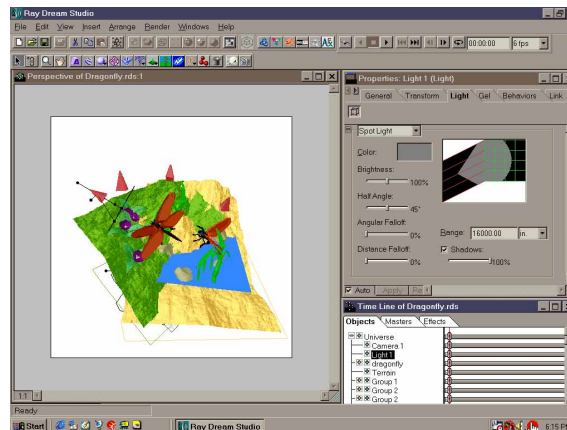


Figure 26

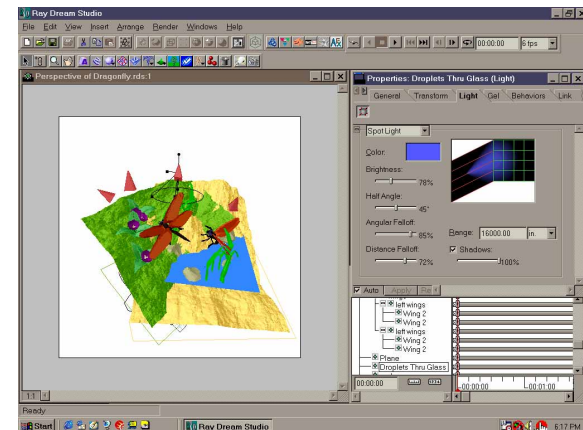


Figure 27

light for all of the lights in this scene, (figure 26). The first light is directed at the dragonfly in flight with a gray color, (figure 27). This is a lovely blue spotlight. Angled slightly behind the dragonfly in flight, it casts its “Droplets thru glass” Gel on the water surface and bank. The next view shows the Droplets thru glass settings in the Properties dialog, (figure 28). I changed the tile settings numerous times, to achieve a random effect. It took 3 renderings to find the setting I was looking for.

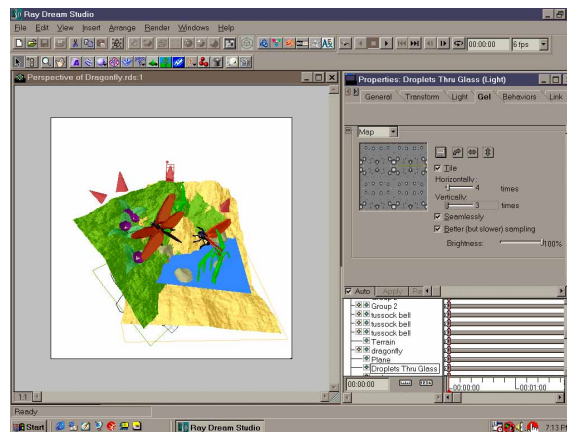


Figure 28

The Tussock Bell flowers are a lovely purple color, but were very dull with the lighting that I had set up. I wanted to enhance the red centers and violet petals and take advantage of the spark of color they

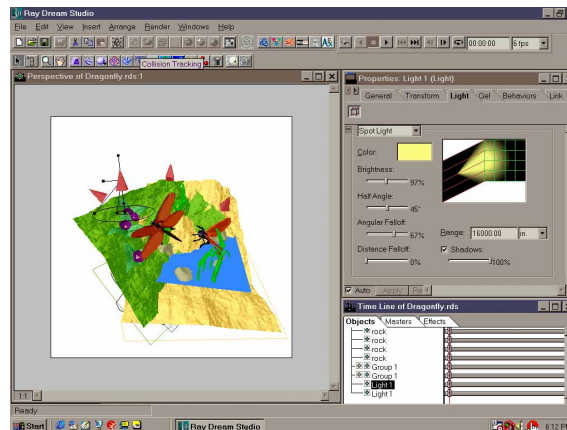


Figure 29

would add to the scene. Using a yellow spot light made all the difference, (figure 29). Yellow is the complementary contrast of violet.

“We should also encourage working with very different colors, so that light and color intensity may compete with and balance each other.” J. Albers 3

Increasing the angular falloff helped to make the light blend out in a subtle way. The last thing I wanted was for it to look like a spotlight.

After what I thought was a final render, I discovered that the female was the weak

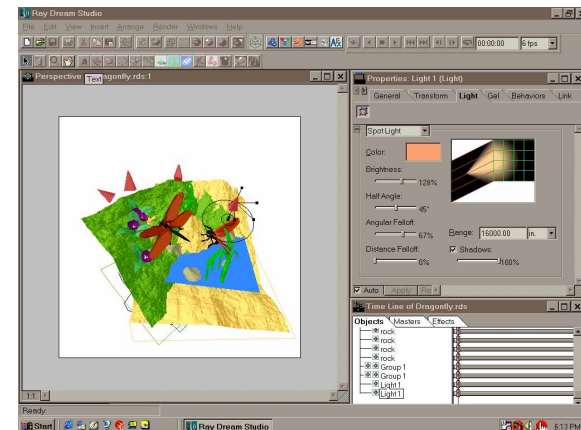


Figure 30

point in the composition. She was in a nice dark area, appropriate for egg laying, but terrible for a good descriptive picture. I didn't want to risk losing the isolated effect, but needed to make her more visible. Adding a spotlight with a lot of angular falloff helped, (figure 30). Using an orange light as a complementary contrast to the blue of the water plane worked out as the perfect solution.

Bibliography

1. The Audubon Society Field Guide to North American Insects and Spiders, Milne and Milne Alfred A. Knopf, New York
2. The Elements of Color, Johannes Itten, Van Nostrand Reinhold Company, New York 1970
3. Interaction of Color, Joseph Albers, Yale University Press 1975.

Biography

Award winning Portrait and Landscape painter.
Space Muralist for Abrams Planetarium's Black light gallery at Michigan State University.

Instituted and provided a therapeutic art program for Emotionally Impaired children in Residential Treatment in Detroit, Michigan.

Currently:

Glover Illustration & Design – www.gloverdesign.com
On staff at PixArt, managing the 3D section www.ruku.com
Married to Ross, 3 cats and a German Shepard and residing in rural Michigan, a painters' paradise in the woods.







Painter 3D Plug-in

OK

Cancel

Help

Export

- ☐ Geometry Only
 - ☐ As Separate Faces
 - ☒ As Separate Objects
- ☒ Both Geometry and Shading
 - ☒ Color
 - ☒ Reflection
 - ☒ Glow
 - ☒ Highlight

- ☐ Warning if document closes
- ☐ Automatic Update
- ☐ Use Detailer 1.0

Folder for temporary files

C:\Temp\Painter3D_for_RDS

☐ Use Detailer 1.0

Surface Fidelity

Faster  Better

Image Files

Resolution pixels (1 - 1024)

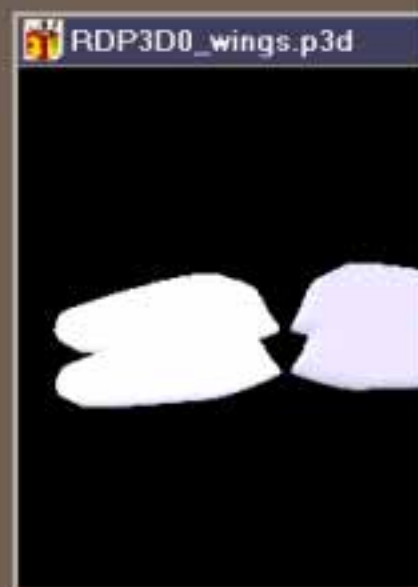
Format:

- Filenames
- ☒ Use Object Name
 - ☐ Use Given Name

☐ Append map type

View Size

Width Height



New View Ctrl+W

Hide Palettes Ctrl+H

Arrange Palettes

Zoom In Ctrl+=

Zoom Out Ctrl=-

Zoom To Fit

Set 3D View Size...

Hide Tools Ctrl+1

Hide Objects 3D Ctrl+2

Hide Maps Manager Ctrl+3

Hide Brushes Ctrl+4

Hide Art Materials Ctrl+5

Hide Objects Ctrl+6

Hide Controls Ctrl+7

Hide Color Set Ctrl+8

Custom Palette

Show Background

Delete Background

✓ RDP3D0_wings.p3d



Objects 3D

Hierarchy Images Objects Lighting

Icons for Hierarchy, Images, Objects, and Lighting.

Objects: Floater List

Plugin Floater Floater Mask

Icons for Plugin Floater, Floater, and Mask.

Group Ungroup Drop Delete

Collapse Trim

Maps Manager

X	X	-	-	Texture
X	X	-	-	Bump Map
X	X	-	-	Highlight
X	X	-	-	Reflection
X	X	-	-	Glow Map
X	X	-	-	Environment

Bump Map Adjustment

Amount 0 100

☐ Negative Polarity

Brushes: Water Color

Brush Variant Control Nozzle

Icons for different brush variants.

Water Color Diffuse Water

Art Materials: Color

Color Paper Grad Pattern Weave

Icons for different material types.

H: 0% S: 0% U: 0%

☐ Clone Color

Controls: Virtual Trackball

Rotation

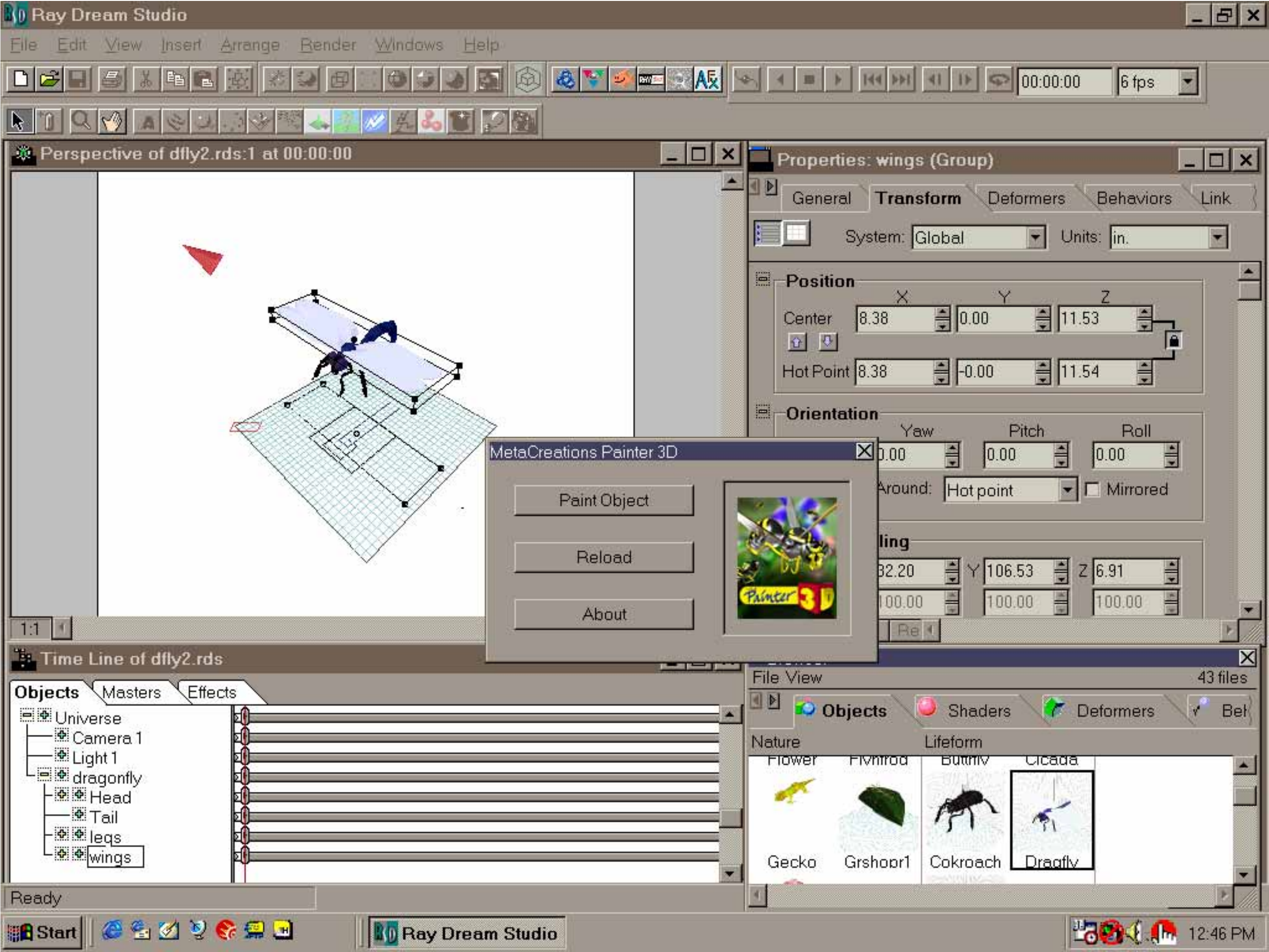
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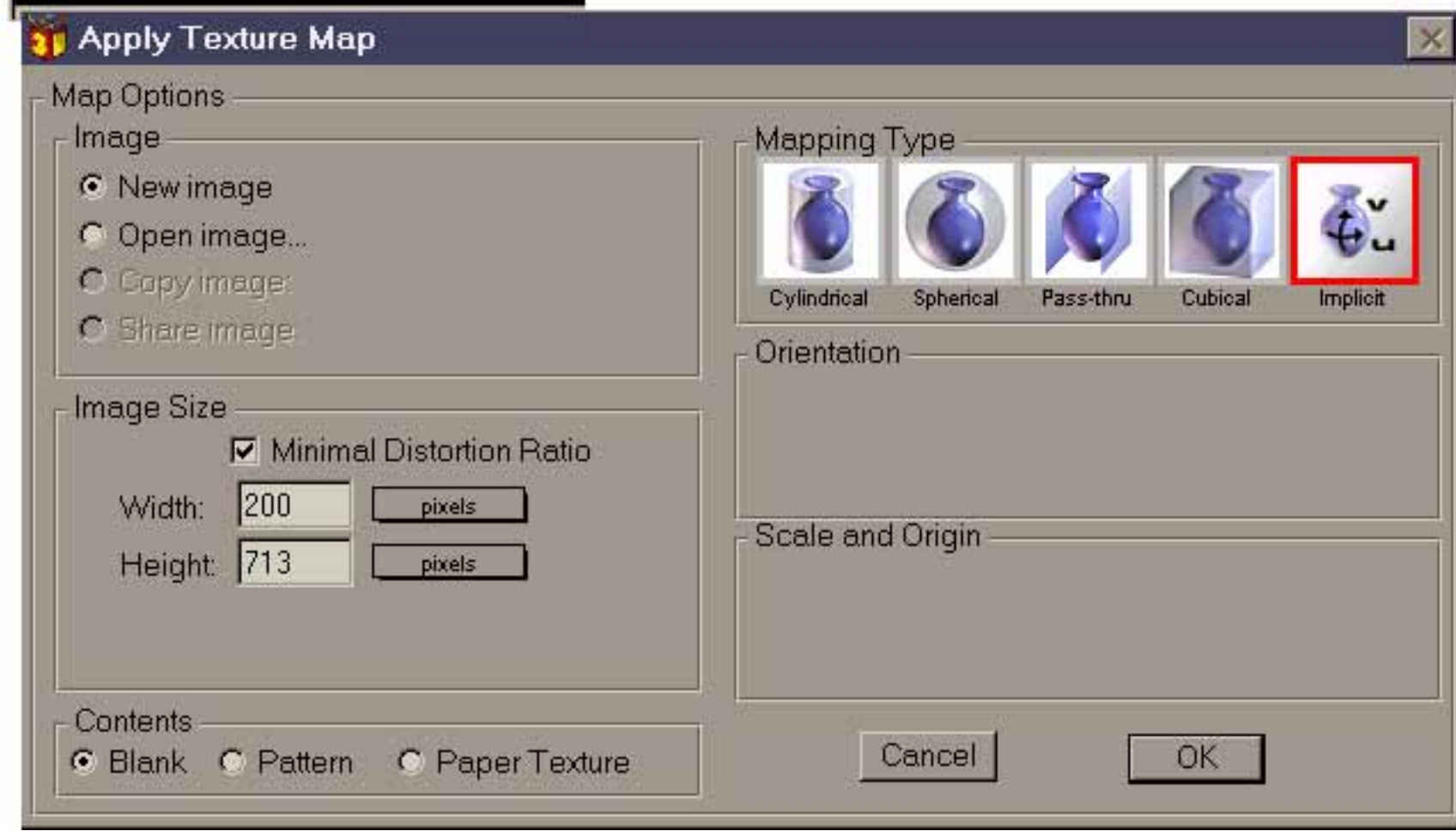
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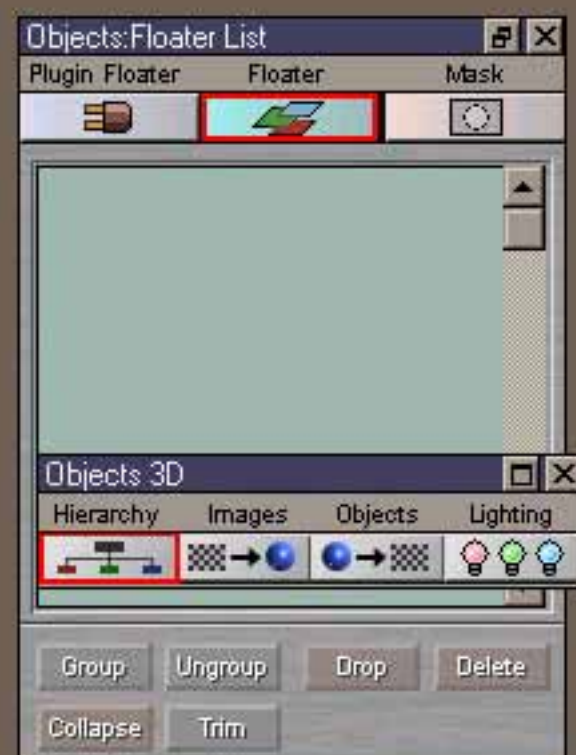
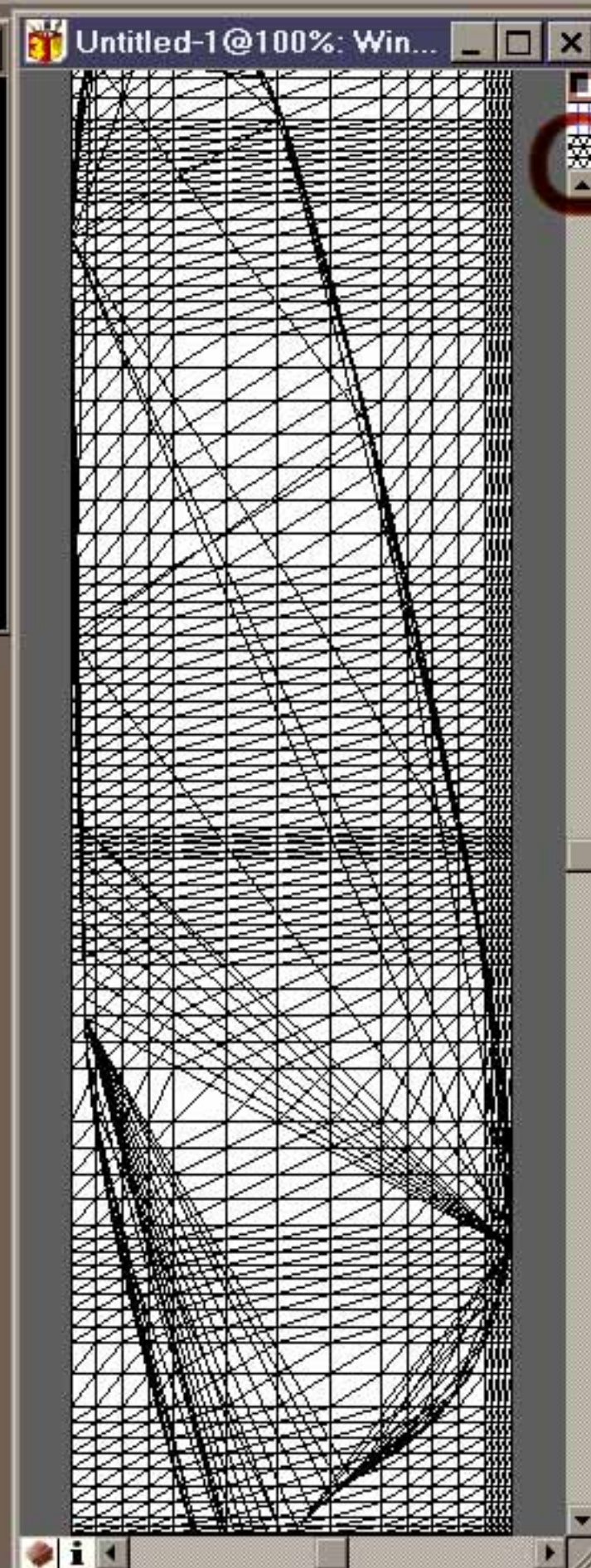
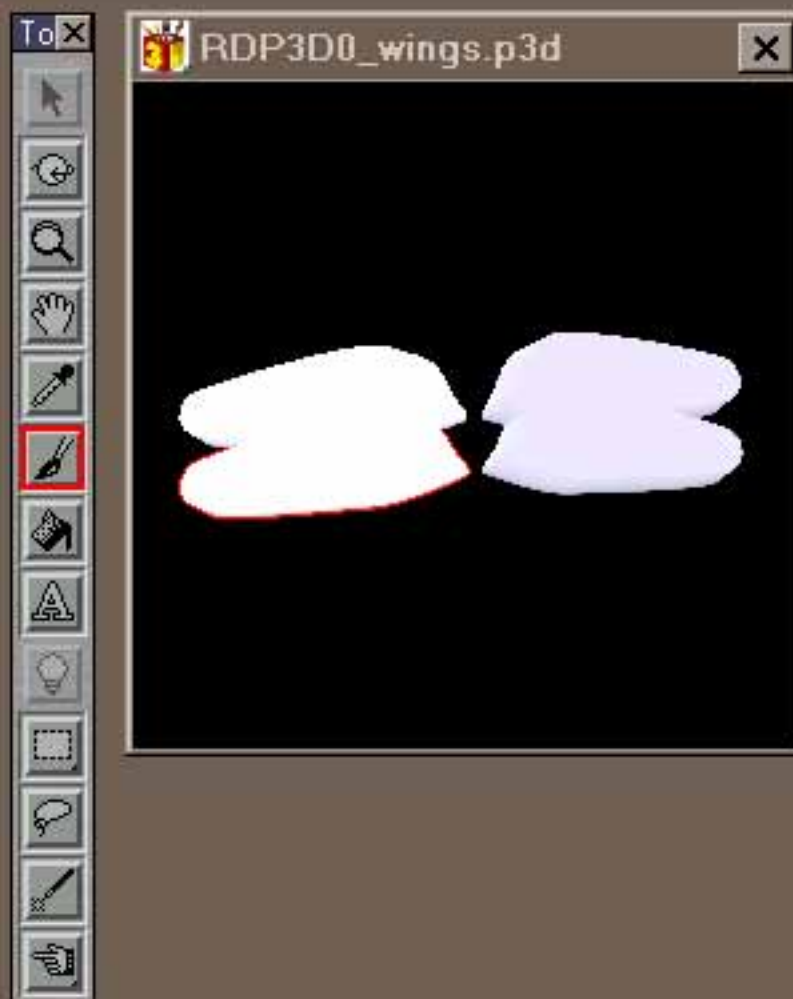
Preset View Position

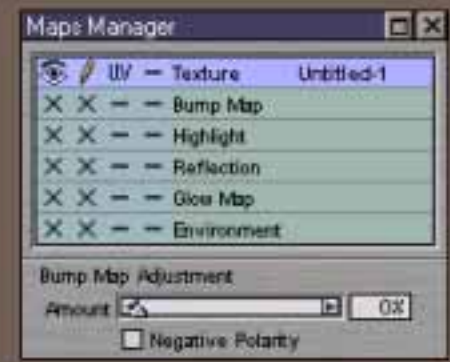
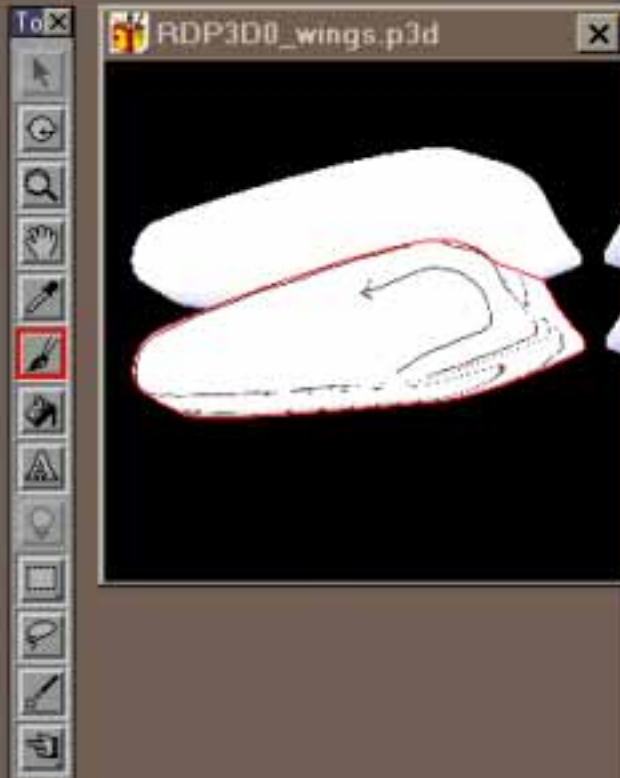
Custom

Delete View













Apply Texture Map



Map Options

Image

- ☐ New image
☐ Open image...
☐ Copy image:
☒ Share image:

wing.TIF

wing.TIF

Image Size

Contents

- ☒ Blank ☐ Pattern ☐ Paper Texture

Mapping Type



Cylindrical



Spherical



Pass-thru



Cubical



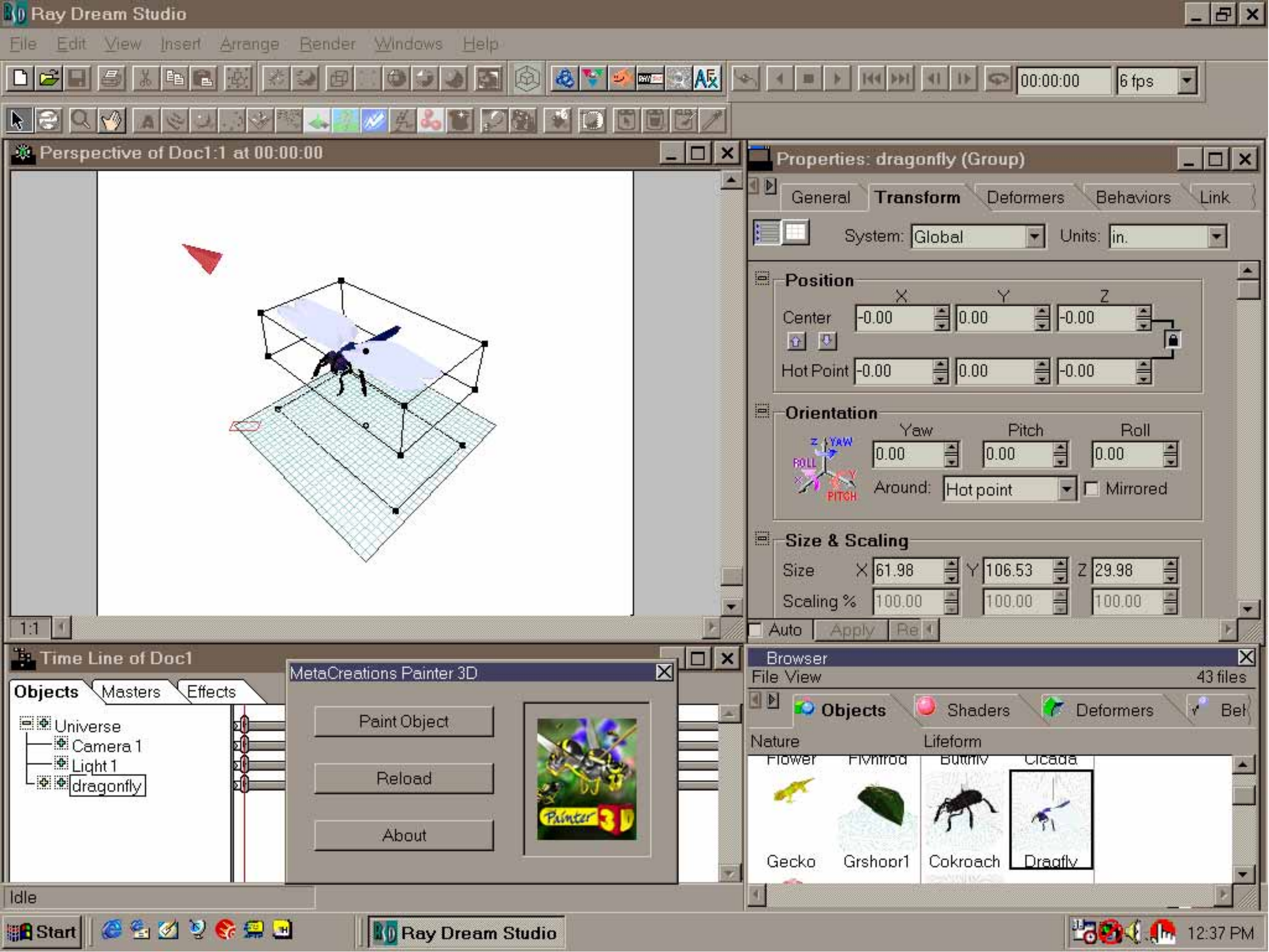
Implicit

Orientation

Scale and Origin

Cancel

OK





View Insert



Color

Highlight

Shininess

Bump

Reflection

Tr

Amplitude



379%

Texture Map



200x713 pixels

8 bits

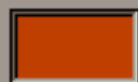
☐ TileHorizontally: timesVertically: times☐ Seamlessly ☐ Invert color☒ Better (but slower) samplingBrightness: ☐ White is invisible☐ Auto

Apply





  **Color** Highlight Shininess Bump Reflection Tri



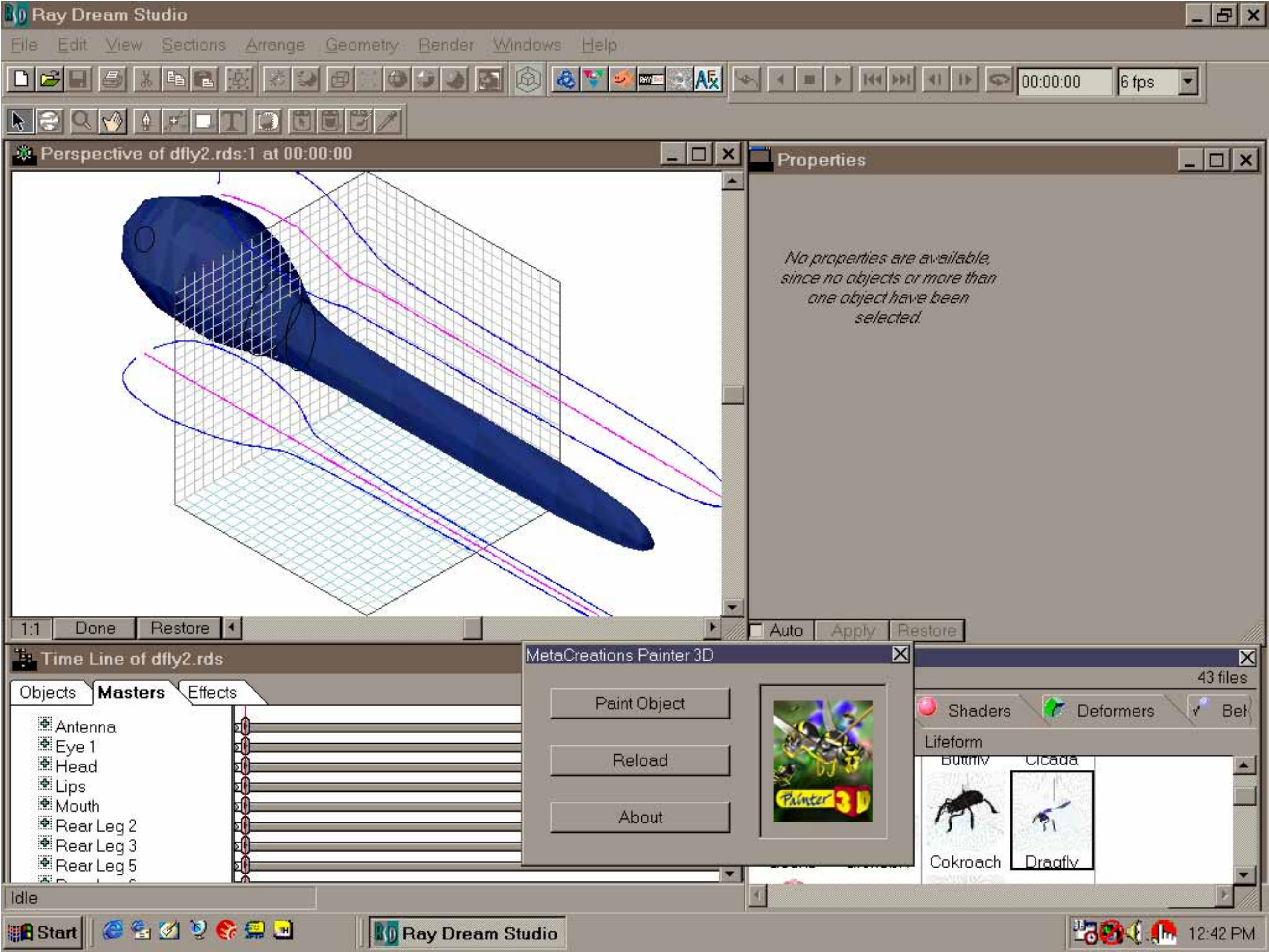
Color

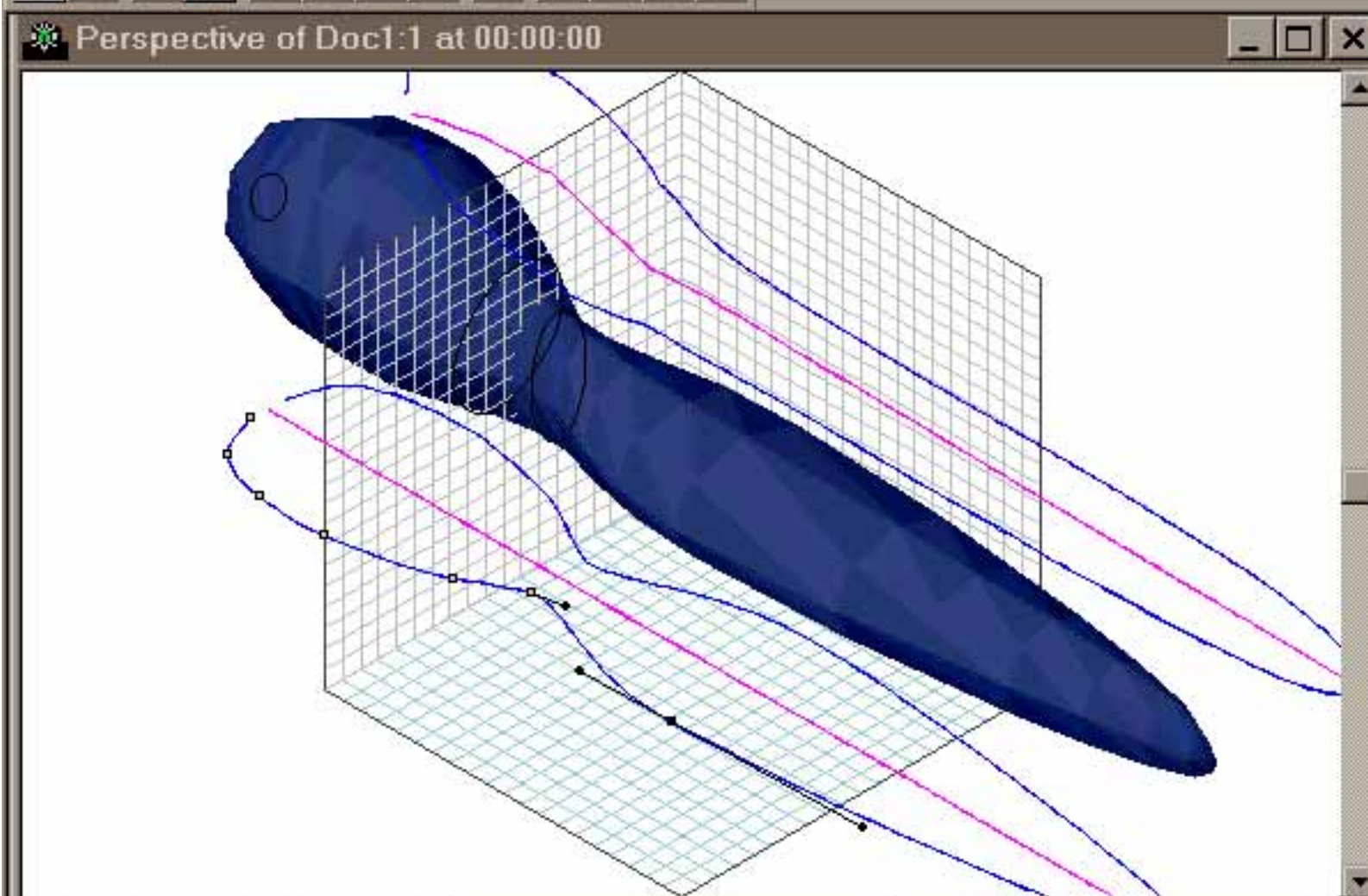


Model: RGB

R  198G  64B  0☐ Auto

Apply





Properties

x: 2.96 in.

y: 2.07 in.

Previous Control Point

dx: 0.19 in.

dy: -8.00 in.

Next Control Point

dx: -0.49 in.

dy: 16.63 in.

Values cannot be changed numerically in this plane.

Auto Apply Restore

Time Line of Doc1

Objects Masters Effects

- Antenna
- Eye 1
- Head
- Lips
- Mouth
- Rear Leg 2
- Rear Leg 3
- Rear Leg 5

MetaCreations Painter 3D

Paint Object

Reload

About

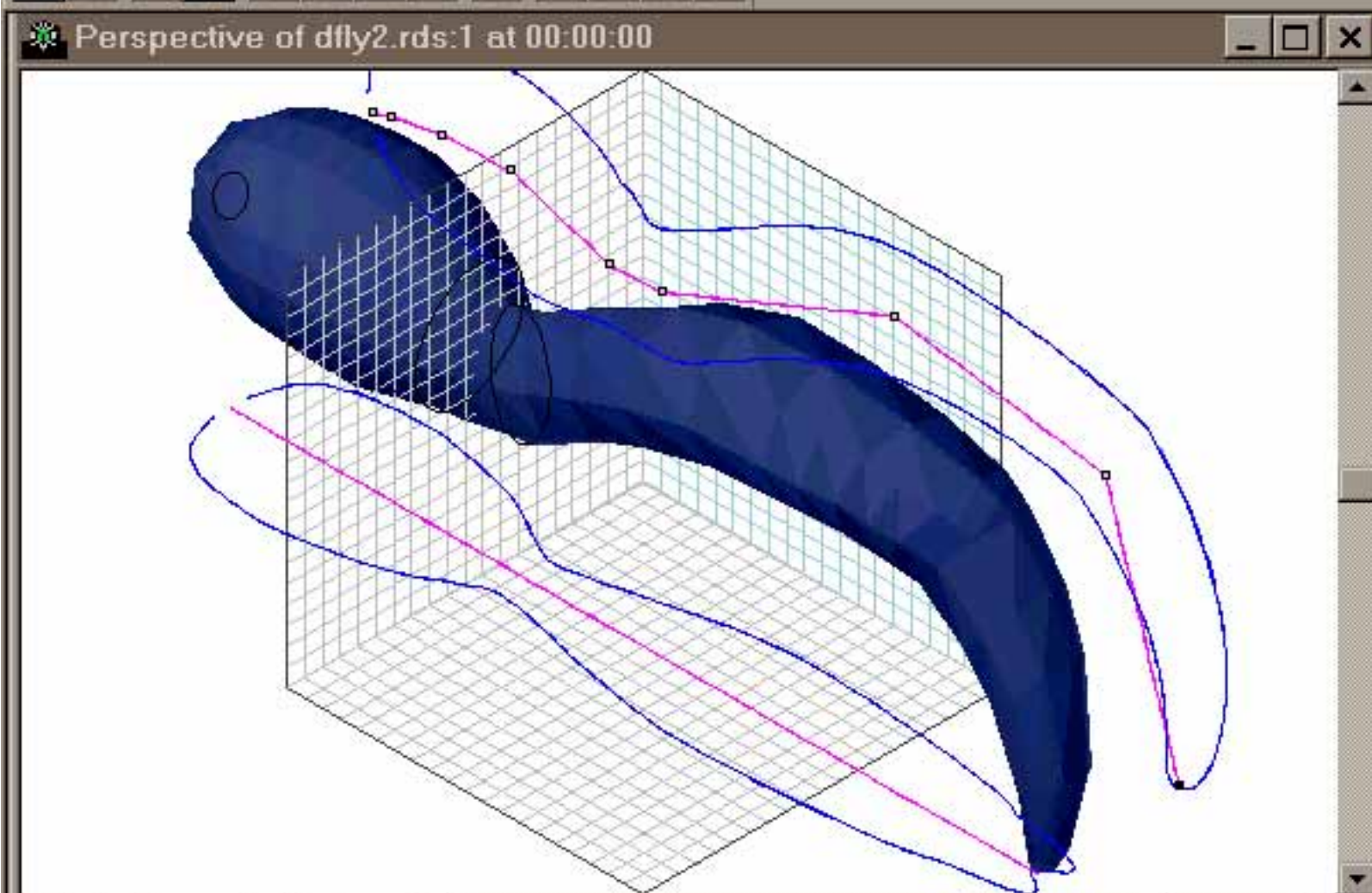
43 files

Shaders Deformers Bel

Lifeform

Buttriv Cicada

Cokroach Dragfly



Properties

x: 31.98 in.

y: -15.72 in.

Previous Control Point

dx: 0.00 in.

dy: 0.00 in.

Next Control Point

dx: 0.00 in.

dy: 0.00 in.

Values cannot be changed numerically in this plane.

Auto Apply Restore

1:1 Done Restore

Time Line of dfly2.rds

Objects Masters Effects

- Antenna
- Eye 1
- Head
- Lips
- Mouth
- Rear Leg 2
- Rear Leg 3
- Rear Leg 5

MetaCreations Painter 3D

Paint Object

Reload

About

43 files

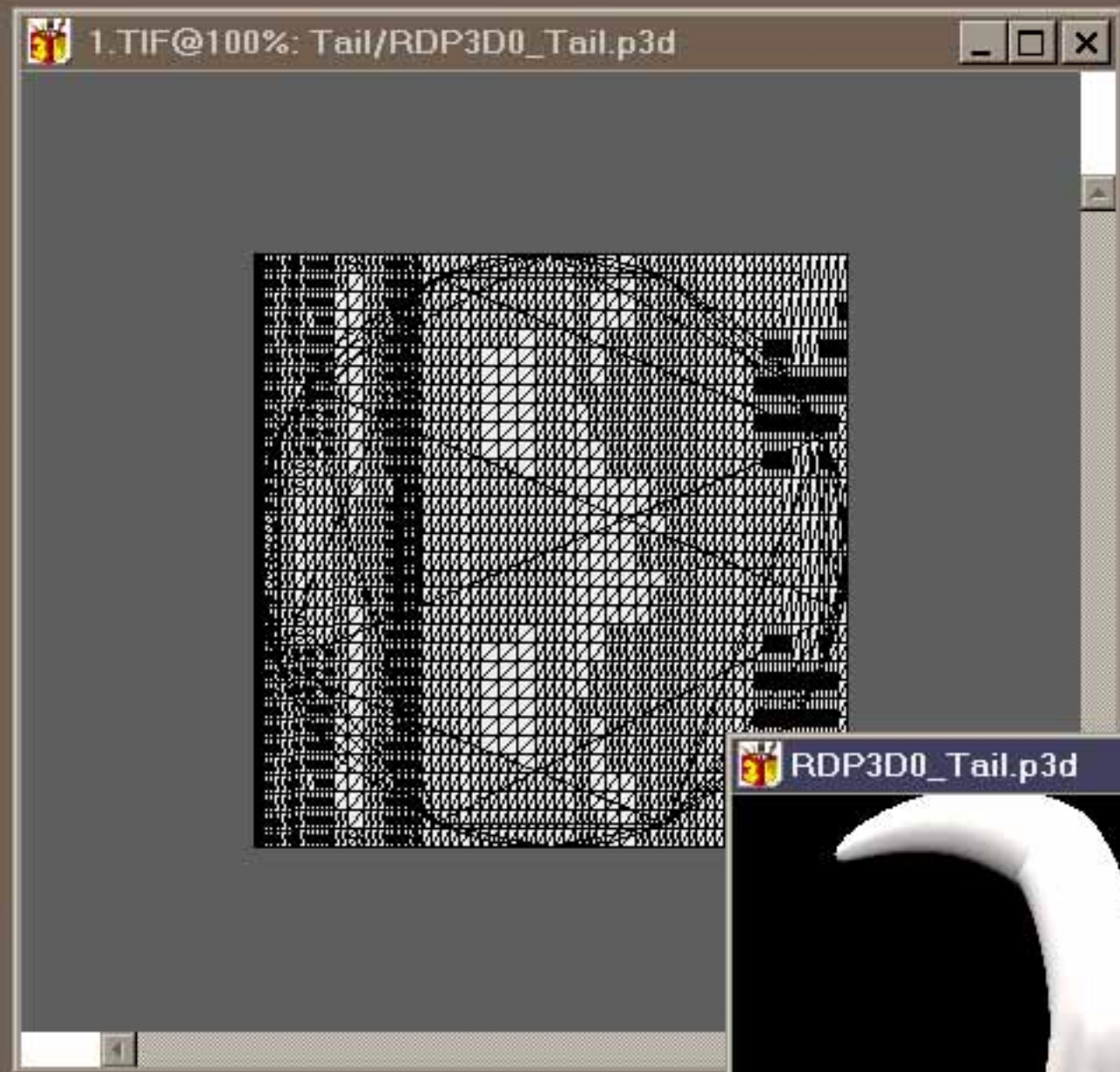
Shaders Deformers Bel

Lifeform

Buttriv Cicada

Cokroach Dragfly

Idle



Maps Manager

UV	Texture	1.TIF
X	X	- - Bump Map
X	X	- - Highlight
X	X	- - Reflection
X	X	- - Glow Map
X	X	- - Environment

Bump Map Adjustment
Amount
☐ Negative Polarity

Brushes:Pencils

Brush	Variant	Control	Nozzle

Pencils 2B Pencil

Objects 3D

Hierarchy Images Objects Lighting

Art Materials:Color

Color Paper Grad Pattern Weave

H: 39%
S: 24%
U: 94%

☐ Clone Color



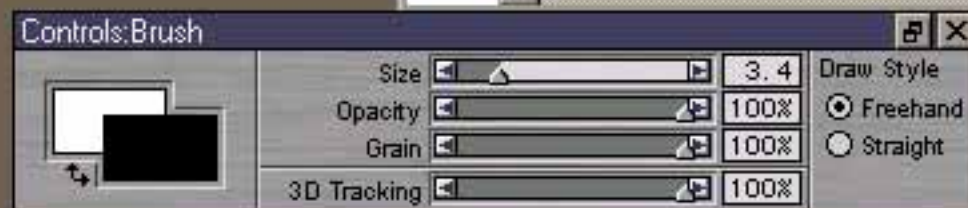
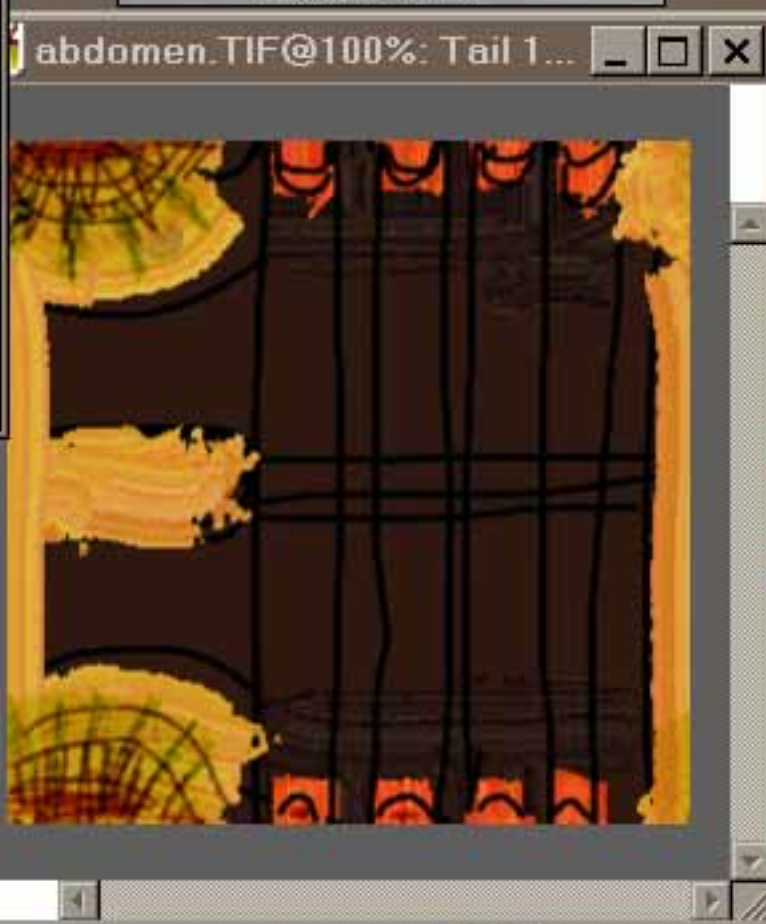
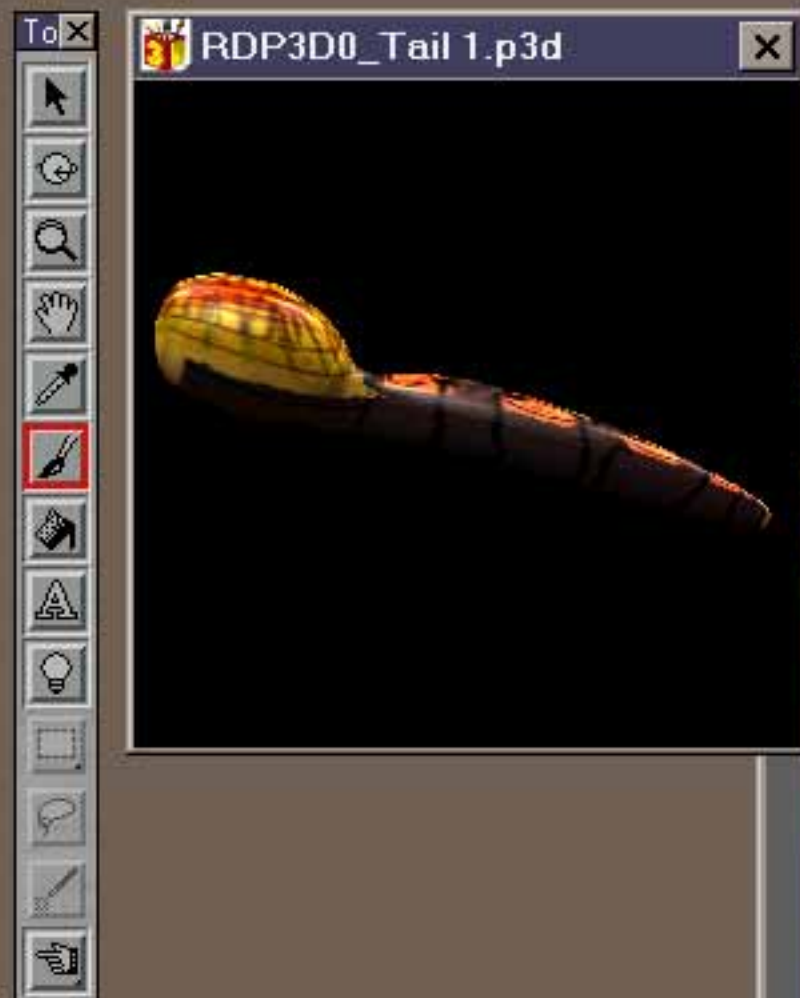
Controls:Virtual Trackball

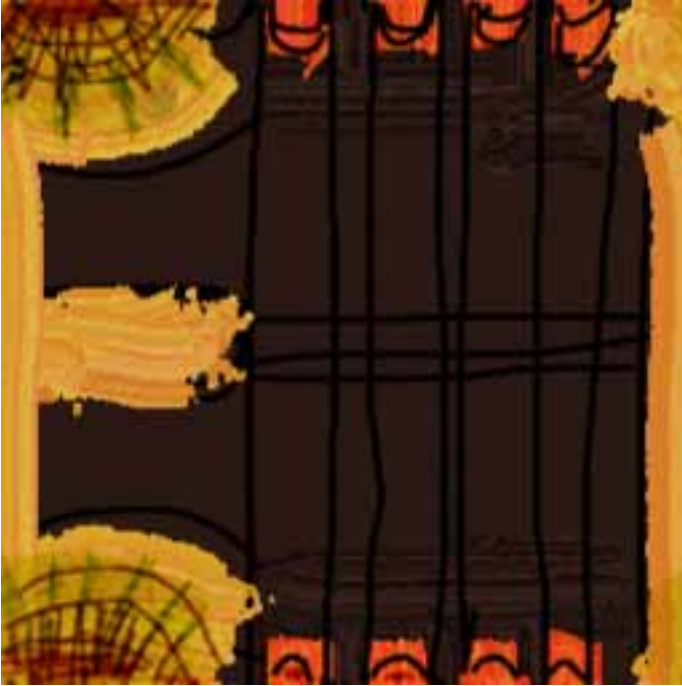
Rotation

X	-58°
Y	-13°
Z	-77°

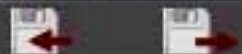
X: 27
Y: -52

Preset View Position

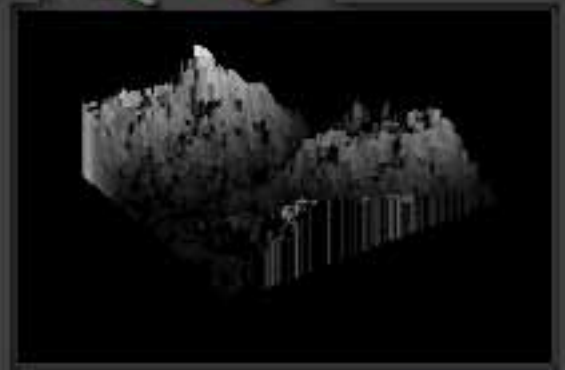
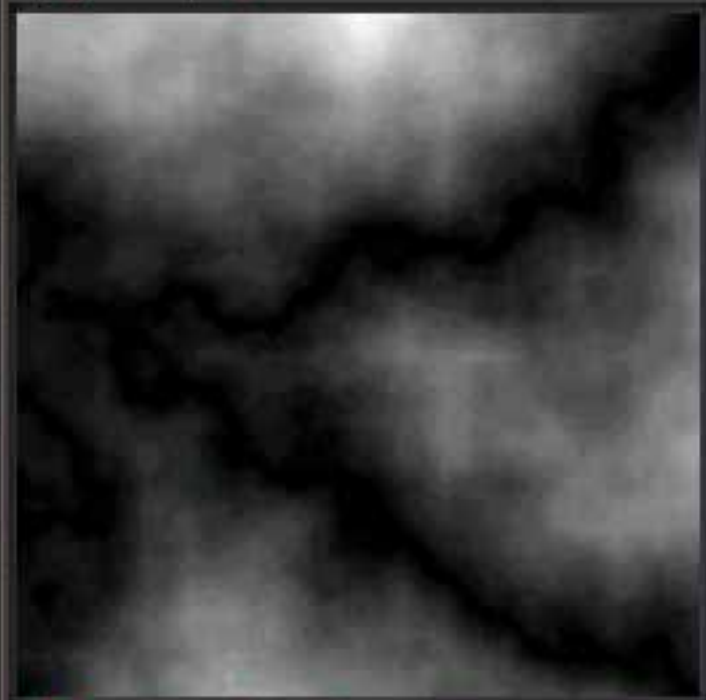




Four Elements: Earth



Undo/Redo



Generate

Modify

- ☐ Clear
- ☐ Shuffle
- ☐ Eroded mounds
- ☐ Low mounts
- ☐ Straight mounts
- ☐ Spikes
- ☐ Valleys & peaks
- ☐ Mountain range
- ☐ Great peaks
- ☐ Dunes
- ☐ Small peaks
- ☐ Smooth mounts
- ☐ Real terrain
- ☐ Medium peaks
- ☐ Large peaks
- ☐ Round hill

Cancel

OK

Current Shader Editor



View Insert



Color

Highlight

Shininess

Bump

Mix



Cellular

Shape:

Shuffle



Intensity:



Scale:



Upper and Lower Limits:

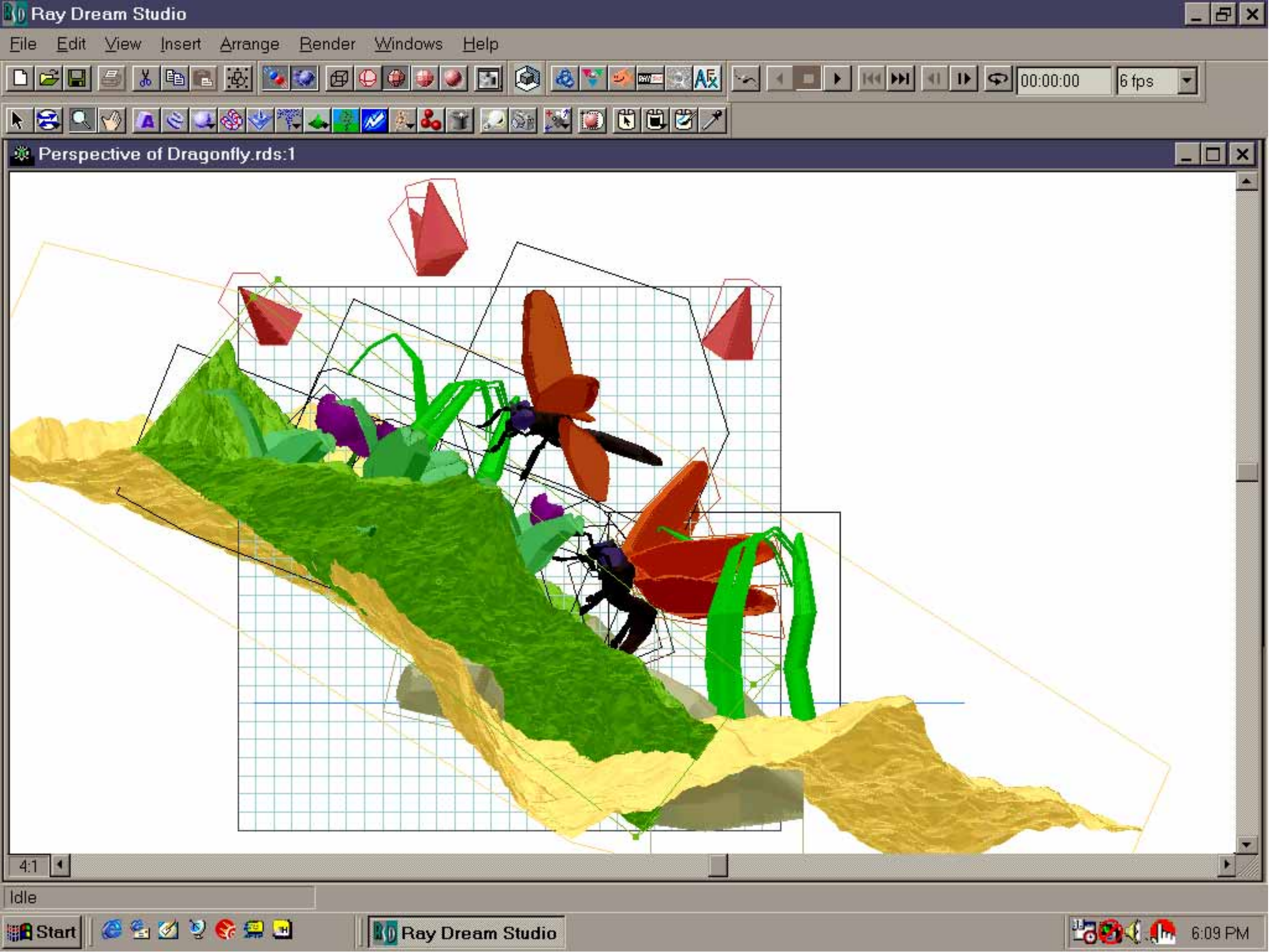


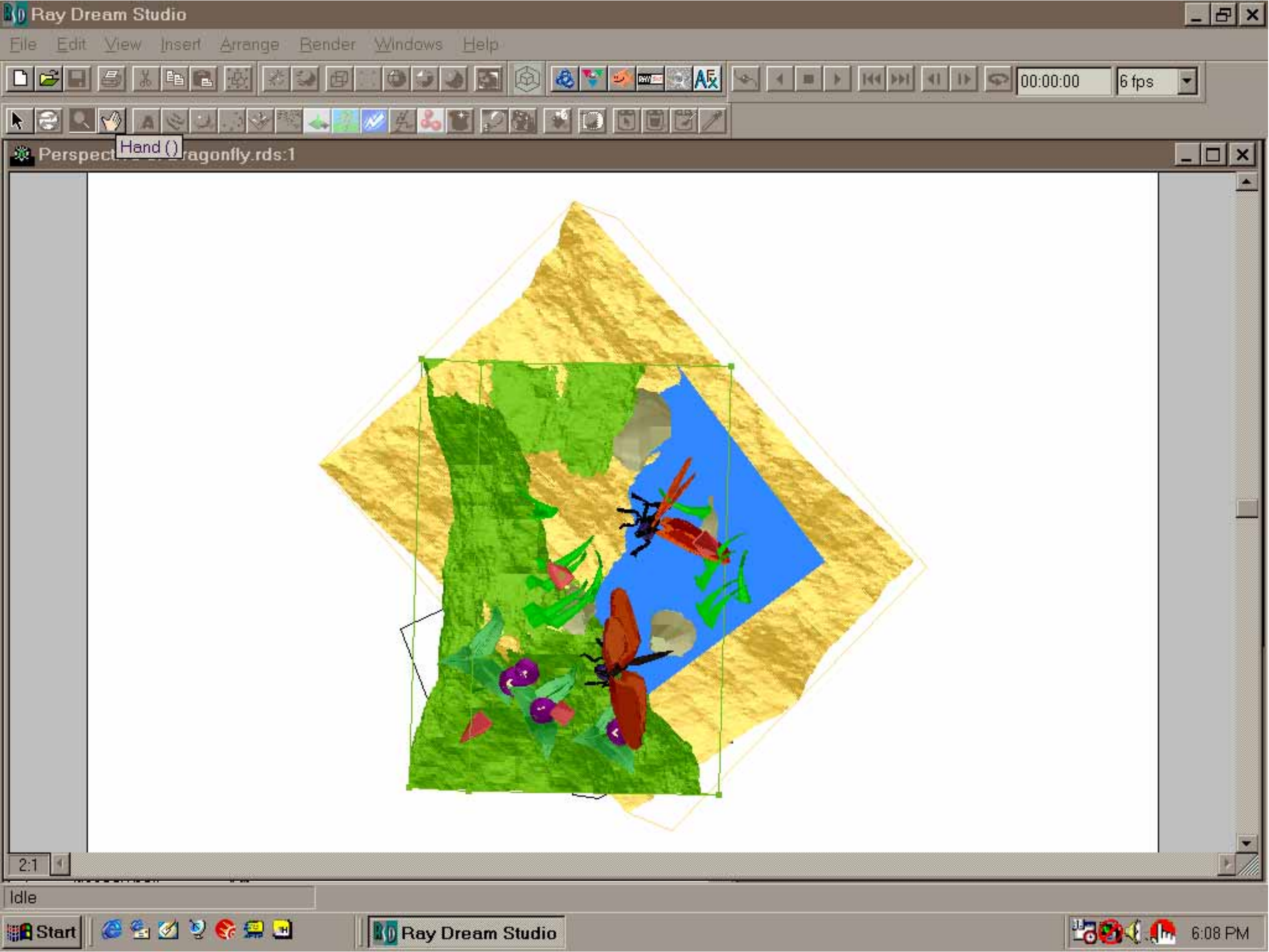
☒ Fractal Version (Slower)

☐ Auto

Apply









00:00:00 6 fps



Use as current shader

Color Highlight Shininess **Bump** Reflection Transparency Refraction Glow

Amplitude 100%

13

Four Elements:Water

Wave shader

Time 0%

☐ Compute interferences

Global Scale 203%

☒ Perturb values

Wave #1

☒ Add

Angle 120°

Scale 100%

Amplitude 100%

Perturbation 100%

Wave #2

☒ Add

Angle 64°

Scale 100%

Amplitude 100%

Perturbation 100%

Wave #3

☒ Add

Angle 0°

Scale 100%

Amplitude 83%

Perturbation 66%

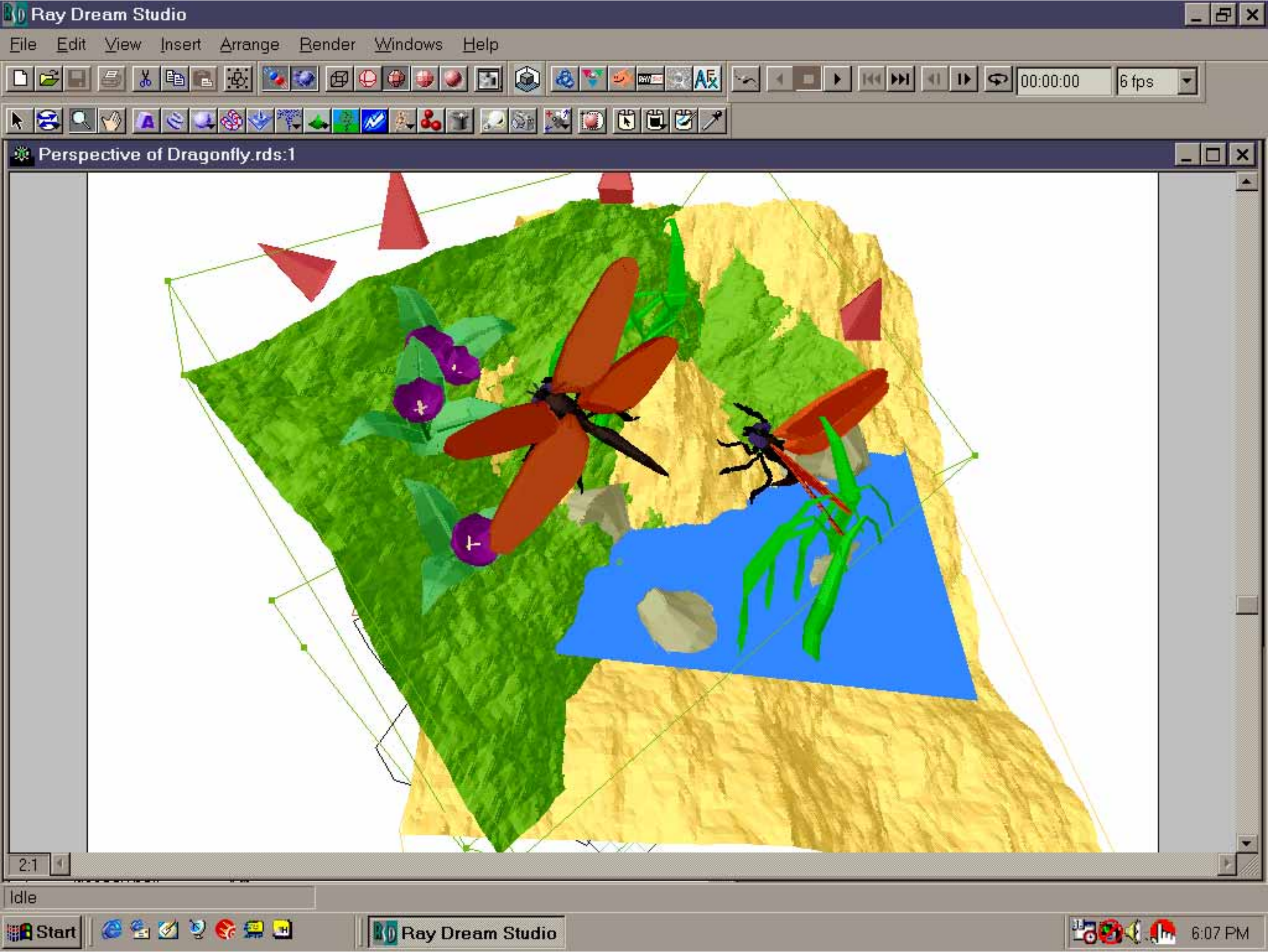
About

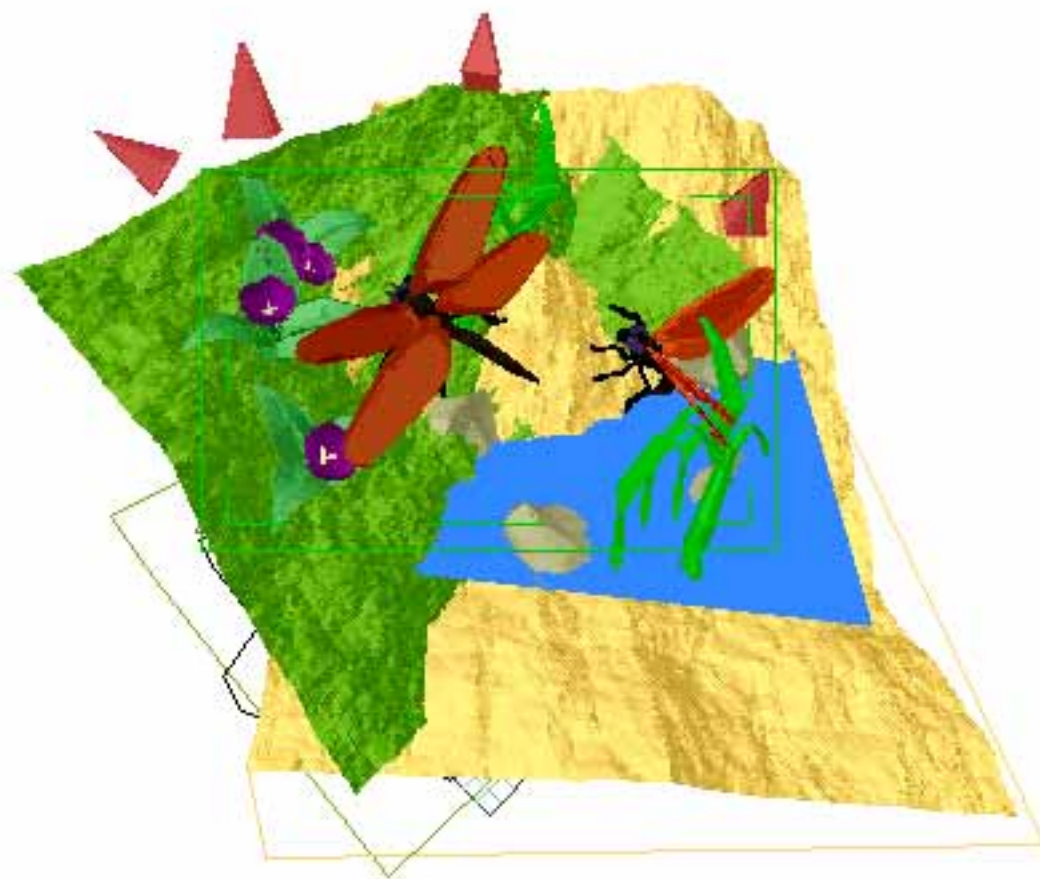
RAYflect

Apply

Ready

Browser





Properties: Camera 1 (Camera)

General **Transform** Camera Behaviors Link M

System: Global Units: in.

Position

	X	Y	Z
Center	118.11	118.11	118.11
Hot Point	118.11	118.11	118.11

Orientation

	Yaw	Pitch	Roll
	135.00	0.00	54.73

Around: Hot point ☐ Mirrored

Size & Scaling

	X	Y	Z
Size	16.00	12.00	8.00
Scaling %	100.00	100.00	100.00

☒ Keep Proportions 99.97 % Overall

Lock: Both hot point and center

☐ Auto Apply Re

Scene Settings for Dragonfly.rds

Renderer

Output

Effects

Filters

Misc. Data

RayTracer

☒ Shadows

☒ Reflections

☒ Bump

☒ Transparency

☒ Refracted transparency

☒ Light through transparency
(very slow with soft shadows)

Adaptive Oversampling

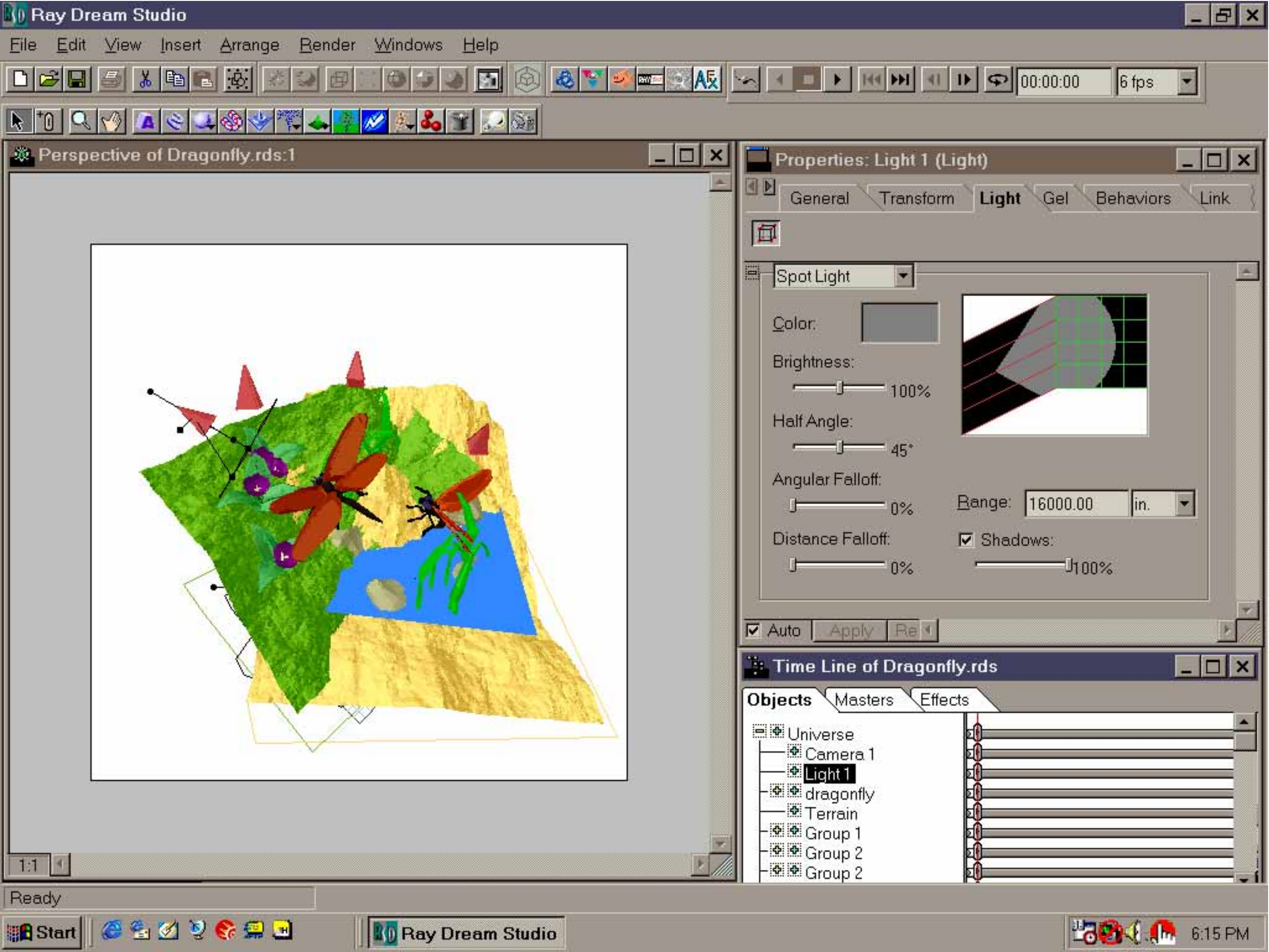
☐ None

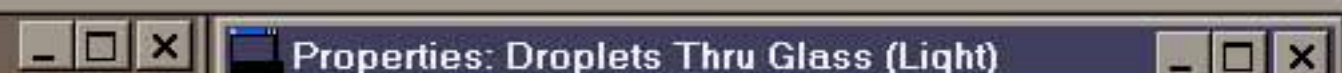
☒ Fast

☐ Best

Maximum ray depth:

Miscellaneous





Link



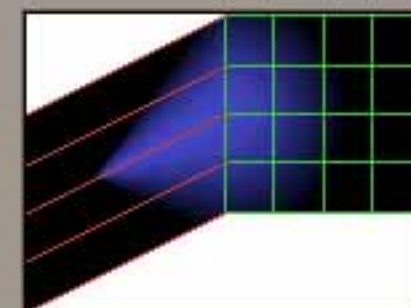
10

78%

85%

72%

in.

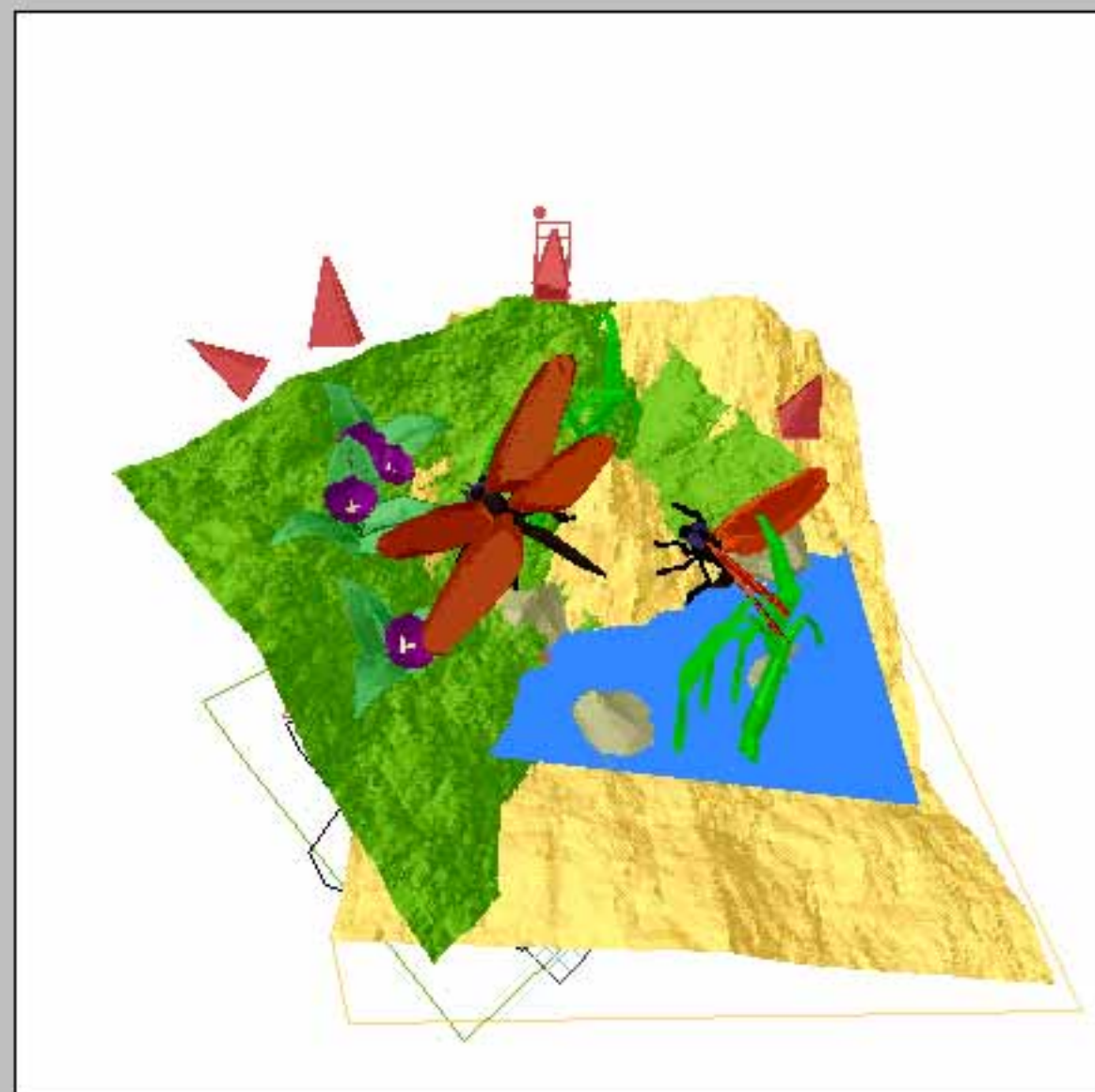


Re

Diuretics thru Glass

1234

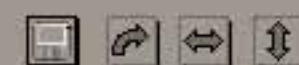
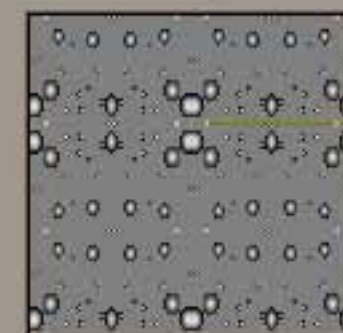
00:01:00



Properties: Droplets Thru Glass (Light)

General Transform Light **Gel** Behaviors Link

Map



☒ Tile

Horizontally: 4 times

Vertically: 3 times

☒ Seamlessly

☒ Better (but slower) sampling

Brightness: 100%

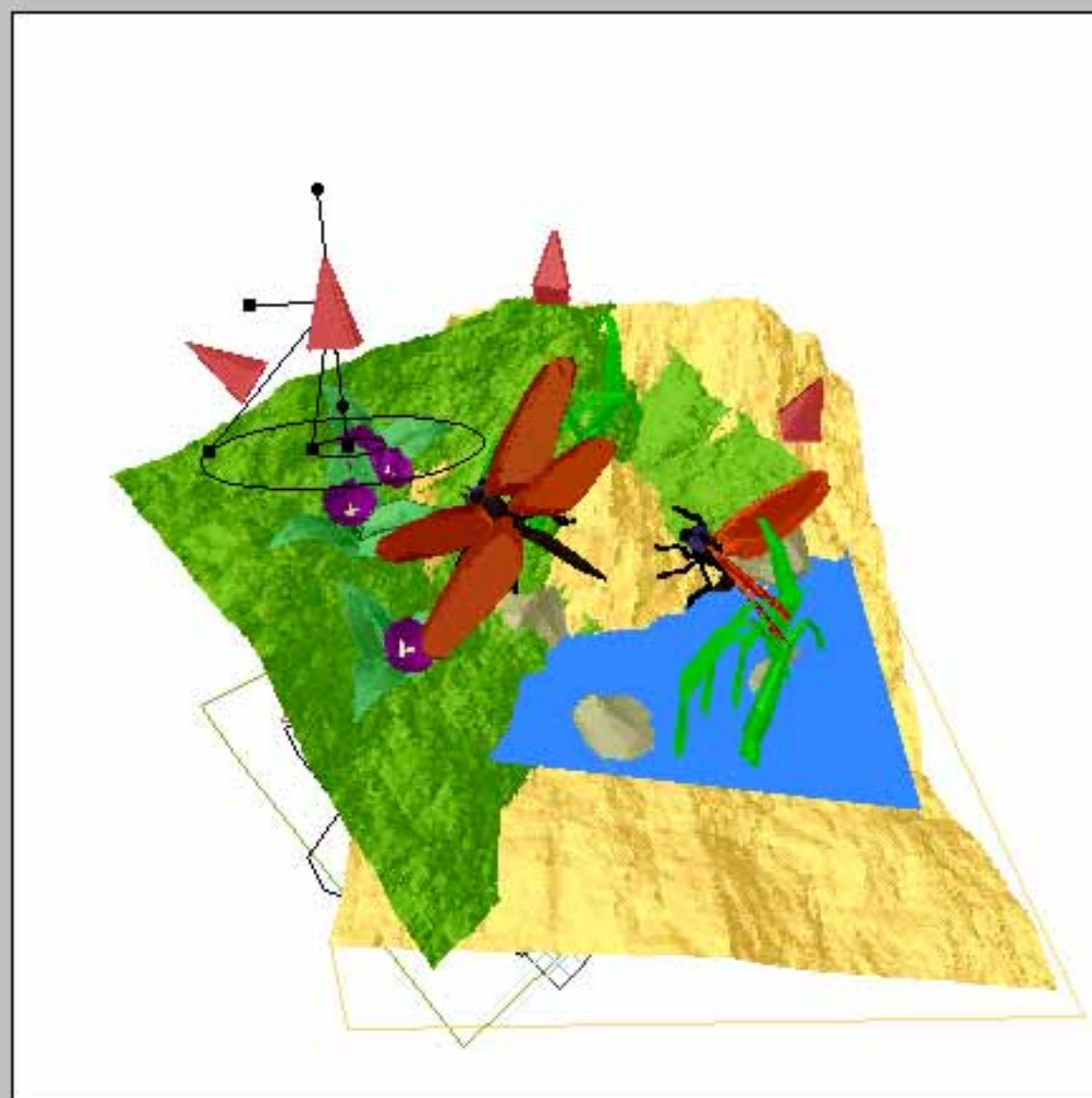
☒ Auto Apply Re

- Group 2
- tussock bell
- tussock bell
- tussock bell
- Terrain
- dragonfly
- Plane
- Droplets Thru Glass

00:00:00 1234 00:00:00 00:01:00



Perspective of Dragonfly.rds:1



Properties: Light 1 (Light)

General Transform **Light** Gel Behaviors Link

Spot Light

Color:

Brightness: 97%

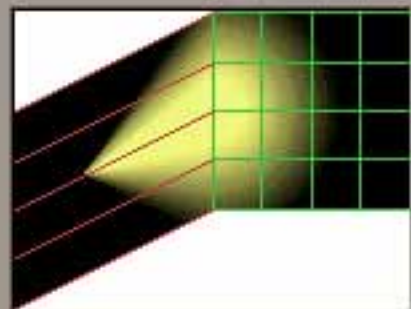
Half Angle: 45°

Angular Falloff: 67%

Distance Falloff: 0%

Range: in.

☒ Shadows: 100%



☒ Auto Apply Re

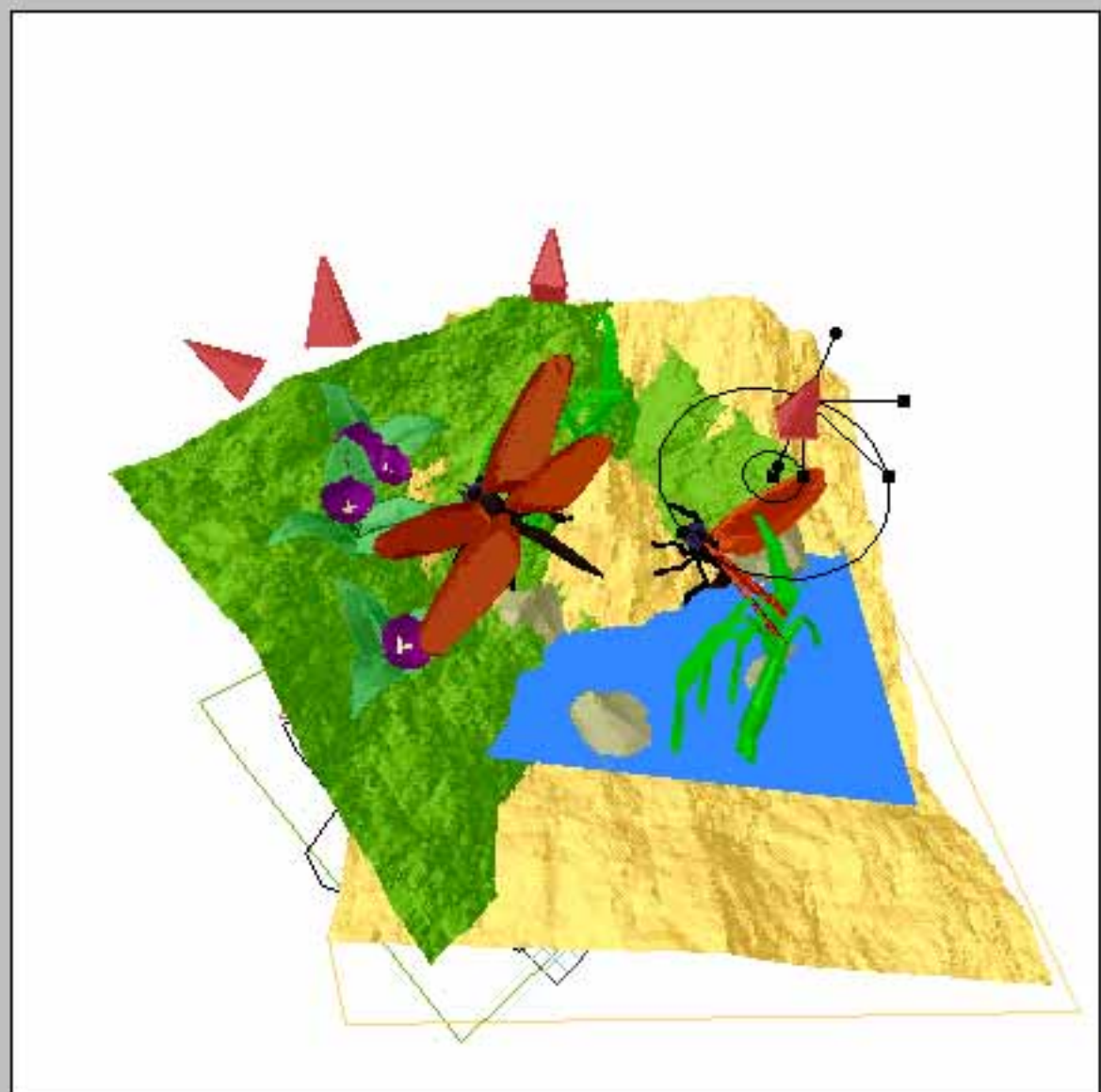
Time Line of Dragonfly.rds

Objects	Masters	Effects
rock		
rock		
rock		
rock		
Group 1		
Group 1		
Light 1		
Light 1		

Ready



Perspective Text Dragonfly.rds:1



Properties: Light 1 (Light)

General Transform **Light** Gel Behaviors Link

Spot Light

Color:

Brightness: 128%

Half Angle: 45°

Angular Falloff: 67%

Distance Falloff: 0%

Range: 16000.00 in.

☒ Shadows: 100%

☒ Auto Apply Re

Time Line of Dragonfly.rds

Objects	Masters	Effects
rock		
rock		
rock		
rock		
Group 1		
Group 1		
Light 1		
Light 1		

Ready

