



Creating a Dredge Profile Shape Using Trimble Sketch Up

By Bob Glover

In HYPACK® you can import bit map pictures to use as dredge profile image when the profile window is displayed in DREDGEPACK®. Custom dredge images can be created using Sketch Up to represent a more realistic image of your dredge in the profile windows. We will discuss the steps, to generate a bit map image (BMP) which can be imported into HYPACK® and saved for use in the profile window in DREDGEPACK®.

Trimble Sketch Up (formerly Google Sketch Up) is a fantastic tool to use for designing custom dredge shapes. With a bit of practice, you can build almost any dredge and export the views to bit maps and you can easily reference and import these images into DREDGEPACK® for the profile window display. The basic version of Sketch Up can be downloaded at <http://www.sketchup.com/>.

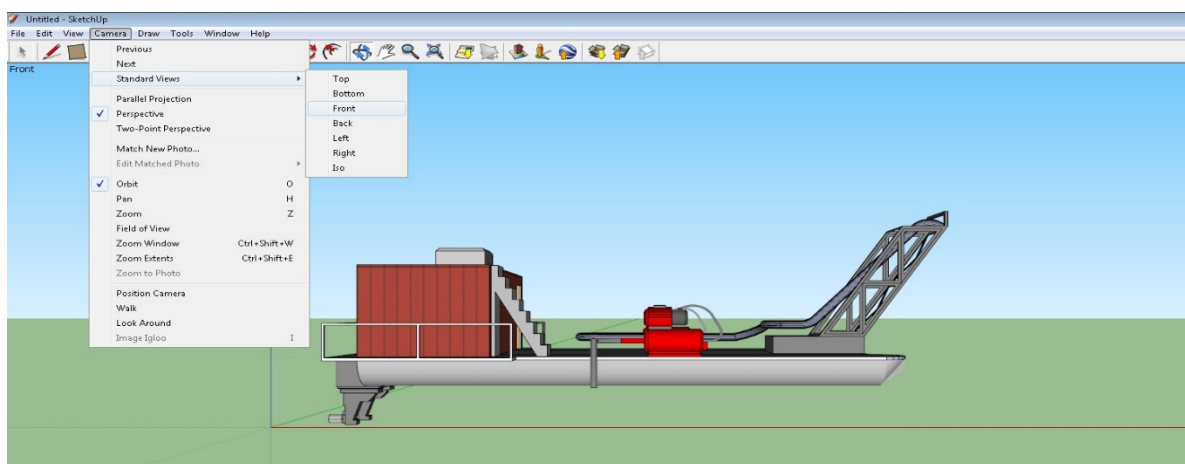
Once you have developed your custom dredge in Sketch Up, you will export them to BMP format files, crop them and do some other minor adjustments before they are ready to use in DREDGEPACK®. The remaining steps to display it as a profile are as follows:

EXPORTING YOUR BIT MAP IMAGE FROM SKETCH UP

The profile window in DREDGEPACK® can use both a perpendicular view and also a parallel view. If you plan to use both, you need to export both a side and front view of your dredge.

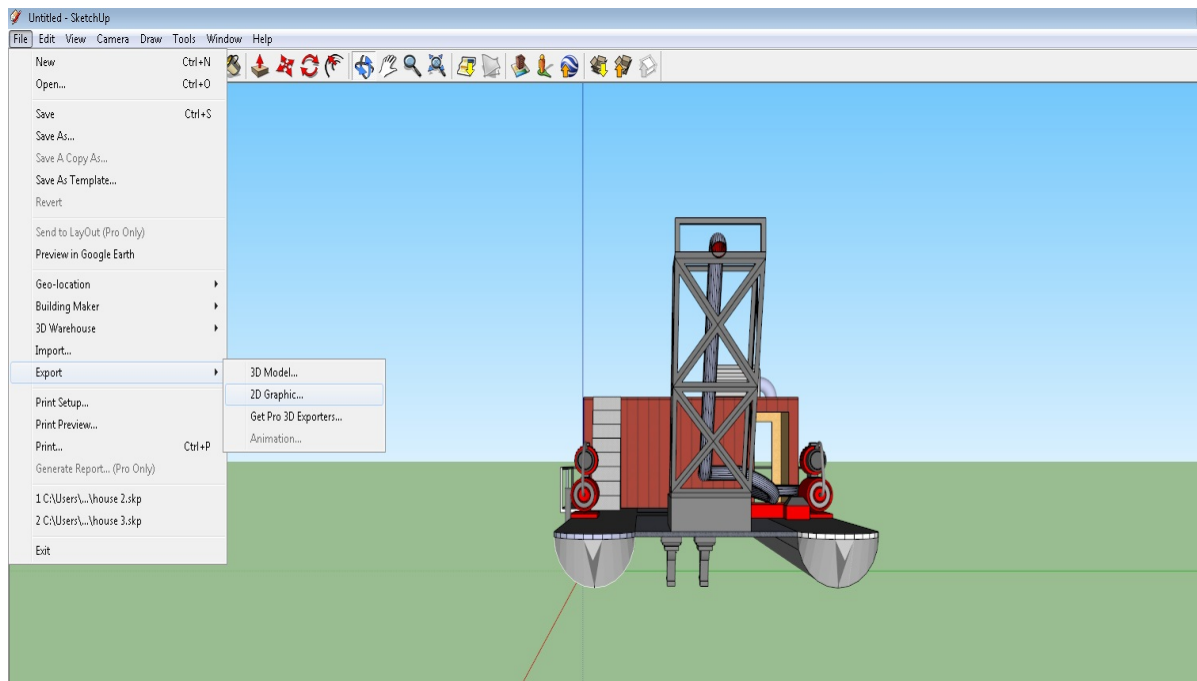
1. **Select the view of your shape that you want to export.** In Sketch Up, it is easy to change the view of your dredge shape. Just select CAMERA-STANDARD VIEWS and the side of the shape you want to display.

FIGURE 1. Selecting your Vessel View in Sketch Up



2. **Select FILE-EXPORT 2D IMAGE.** The export dialog appears for you to select where you would like to save your BMP file. Be sure to save them into the \Hypack 2013\Shapes folder. This is the location from which DREDGEPACK® will read the dredge shape and its positioning information.

FIGURE 2. Exporting a 2-Dimensional View



REMOVING THE BACKGROUND FROM YOUR IMAGE IN PAINT

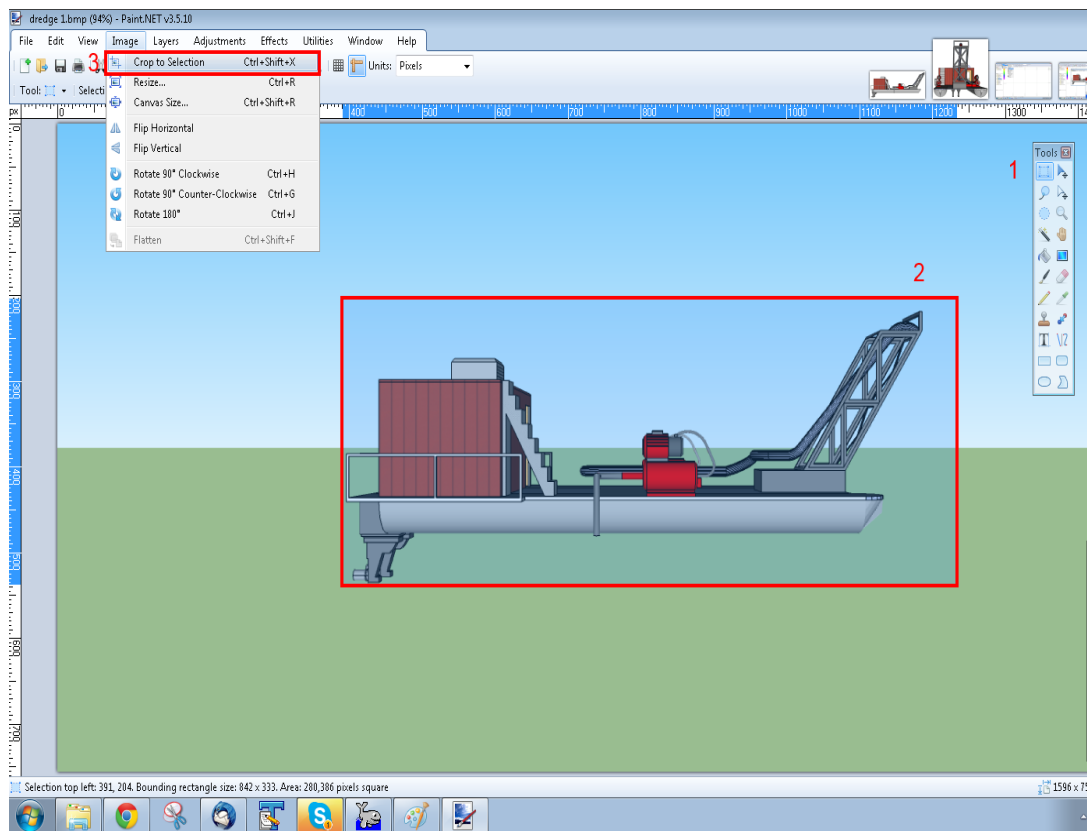
You should crop the dredge image as closely as possible, eliminating as much of the background as you can. Also, when the image is displayed in DREDGEPACK®, white will be transparent, so our goal will be to color any remaining background white so it will be visible in your profile view.

I have found Paint.net is very easy to work with and makes the remaining steps for configuring the dredge shape simple to accomplish. Paint.net can be downloaded from the following link:

<http://download-paint.net/?gclid=CInI977CILcCFQFp4AodHTQA2w>.

1. **Using the select tool, drag a box around the dredge image.**
2. **Select IMAGE-CROP TO SELECTION.**

FIGURE 3. *Cropping your Image in Paint*



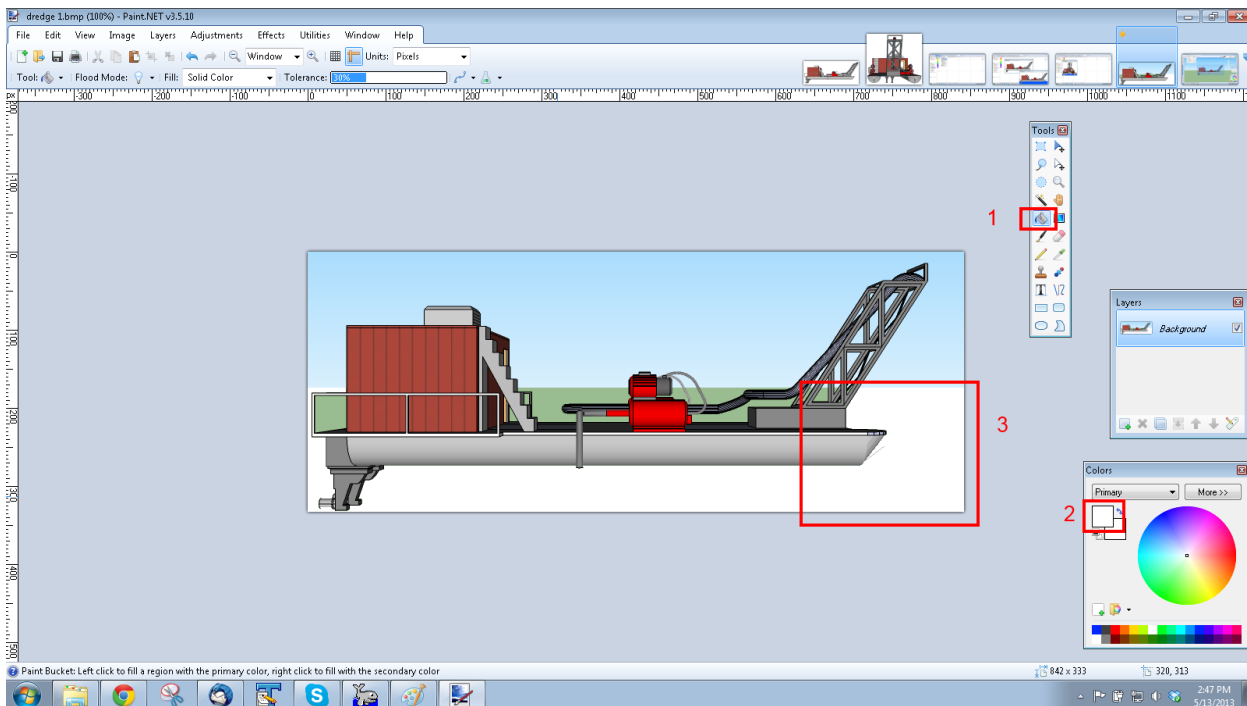
3. Remove the remaining background colors.

- a. **Using the fill paint bucket, select white as the fill color from the color wheel.**
- b. **Click on the background** to fill it with a solid white color.

Note: It might be helpful to change the sensitivity of the color fill bucket using the sensitivity slider at the top of the paint.net screen.

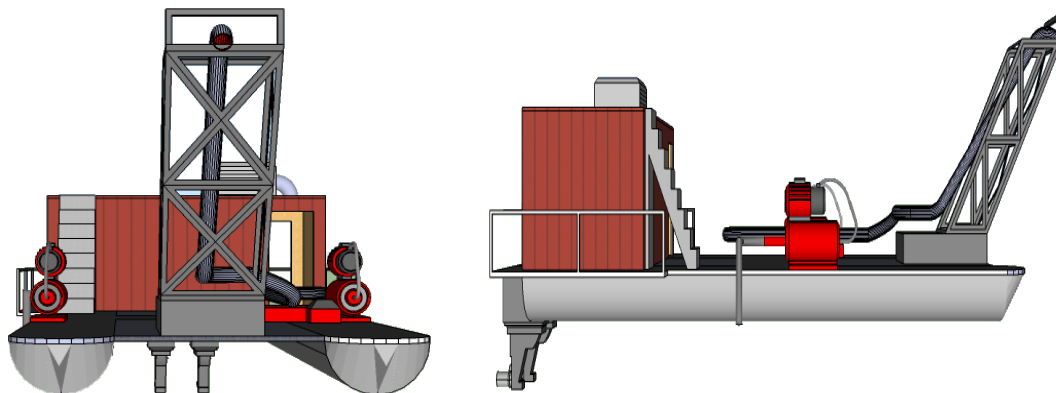
Figure 4 shows the first portion of the background changed to all white. Continue filling the background until all remaining colors have been changed to white.

FIGURE 4. Filling the Background with White



4. **Save your image.** Select FILE-SAVE and save them to the \Hypack 2013\Shapes folder. This is where we will load them from once in the editor and also save our reference INI file once it is created. The bit map image should now look something like Figure 5.

FIGURE 5. Final BMP Results.

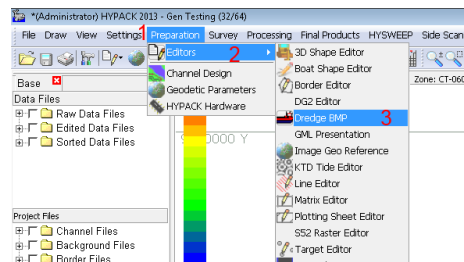


IMPORTING YOUR BMP INTO DREDGE[®]

To import your images into HYPACK[®], use the DREDGE BITMAP EDITOR to define both the water line and the reference point so they will be properly positioned in the DREDGE[®] display.

1. In HYPACK[®], select EDITORS-DREDGE BMP.

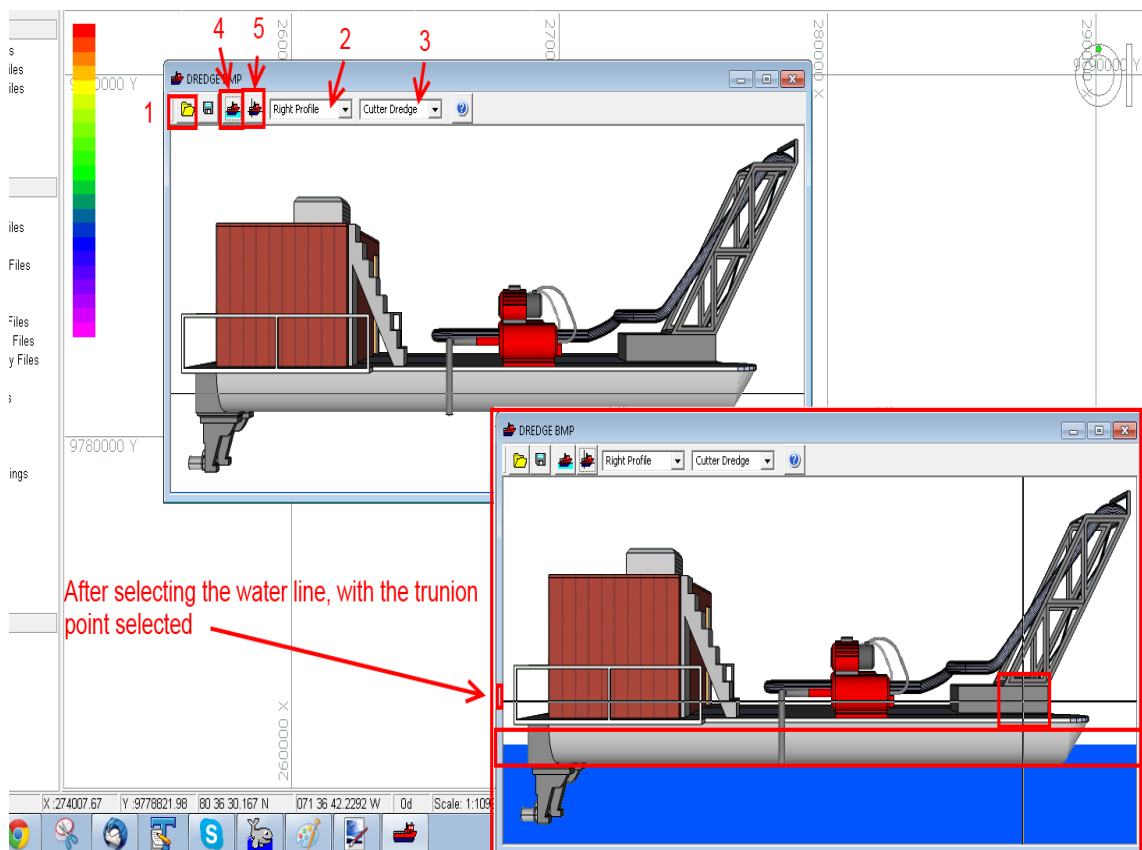
FIGURE 6. Launching the DREDGE BMP EDITOR



2. In the **DREDGE BMP EDITOR**, click the **File Open** icon and load your image that you saved from Paint.net. (Figure 7, Step 1)
3. **Select your view** in the drop-down menu. In this case we are working with the right profile (Step 2).
4. **Choose the style of dredge** (Step 3).
5. **Click the define water line icon** and click on the image where the dredge shape will rest in the water (Step 4).
6. **Click the Define Attachment Point icon** and click on the point at which the digging tool attaches (step 5).



FIGURE 7. Loading the BMP and Adding Reference Points in the DREDGE BMP EDITOR



7. **Save your work.** Click on the Disk icon and save the reference file (*.INI) in the \Hypack 2013\Shape folder where you previously saved your bitmap. The reference file is used to determine its placement in the profile window.

Important: *The files must have the same name.* This allows DREDGEPACK® to use the correct image along with its reference file to correctly position the image in the profile window.

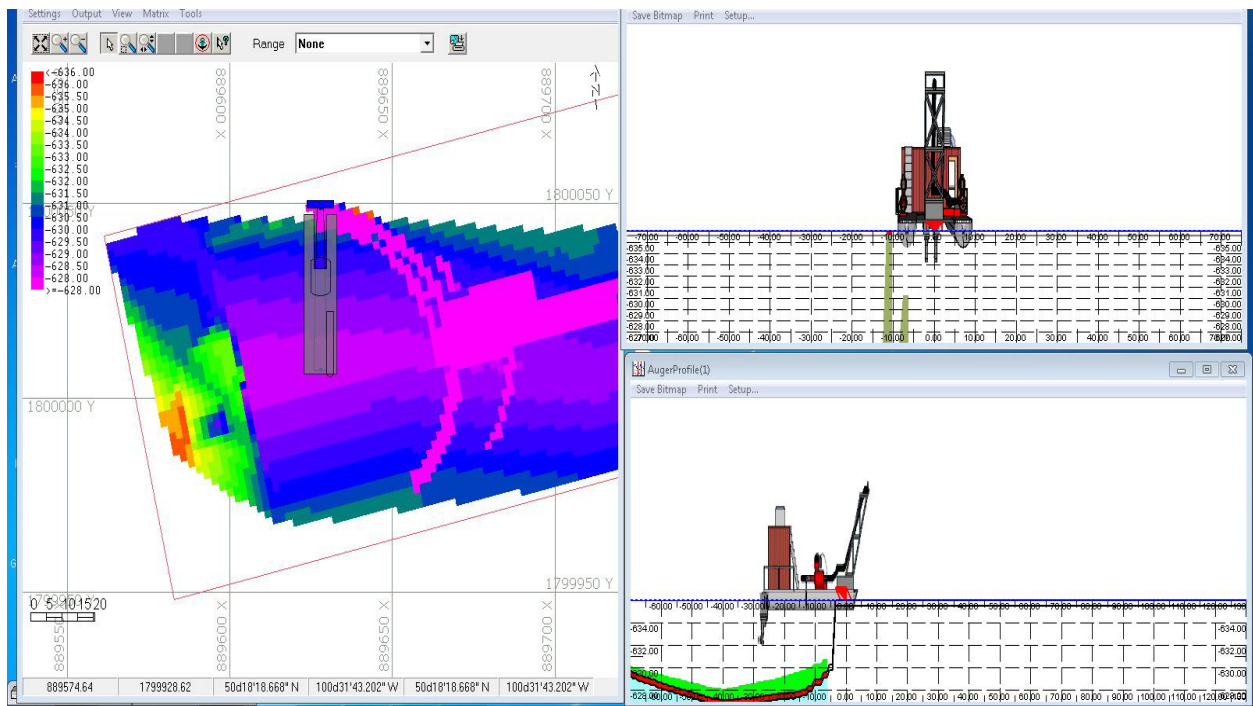
LOADING YOUR SHAPE INTO THE PROFILE WINDOW IN DREDGEPACK®

1. In DREDGEPACK®, select **VESSELS** from the menu.
2. In the Vessels Setup dialog, click on the mobile which represents your cutting tool—the ladder or cutter option in most cases.
3. Click **[Show Profile]** to open the default profile window.
4. Select **SETUP** from the profile window menu.

FIGURE 8. *Profile Setup*

5. In the Profile Setup window, do the following:
 - Choose the desired direction of the profile. This must correspond to your BMP image of the dredge and the reference file generated in the DREDGE BMP EDITOR.
 - Under the dredge shape option, select the name of the BMP file for the view that has been chosen.
 - Enter the size of the dredge body and the length of the cutter ladder/ arm in the boxes below the Dredge Shape option.
 - Click **[OK]** to save the changes and display your custom dredge in the profile window.

FIGURE 9. Both the Parallel and Perpendicular Views of the Profile Using Two Custom Dredge Shapes



Should you have any questions regarding the steps outlined in this article, please feel free to contact help@hypack.com.