



Anchor Sweeps in SURVEY

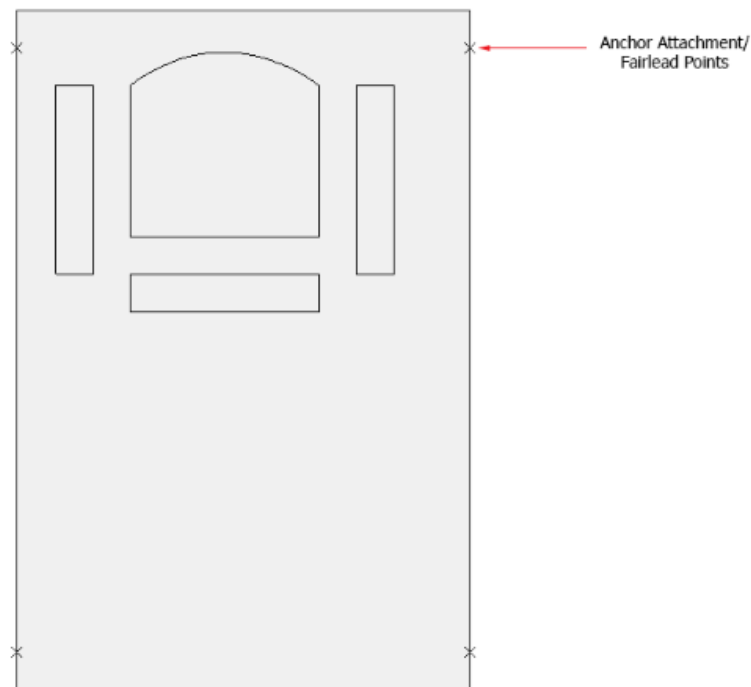
By John Marinuzzi

The newest addition to our list of construction tools is something called Anchor Sweeps. An Anchor Sweep is the area covered between the anchor attachment point (fairlead), anchor drop point, and anchor pickup points while the anchor is dropped.

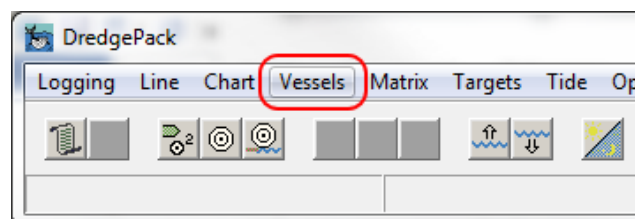
USING ANCHOR SWEEPS

To use Anchor Sweeps, your boat shape file needs to have the anchor attachment points defined. This can be done in the BOAT SHAPE EDITOR.

FIGURE 1. Anchor Points in the BOAT SHAPE EDITOR

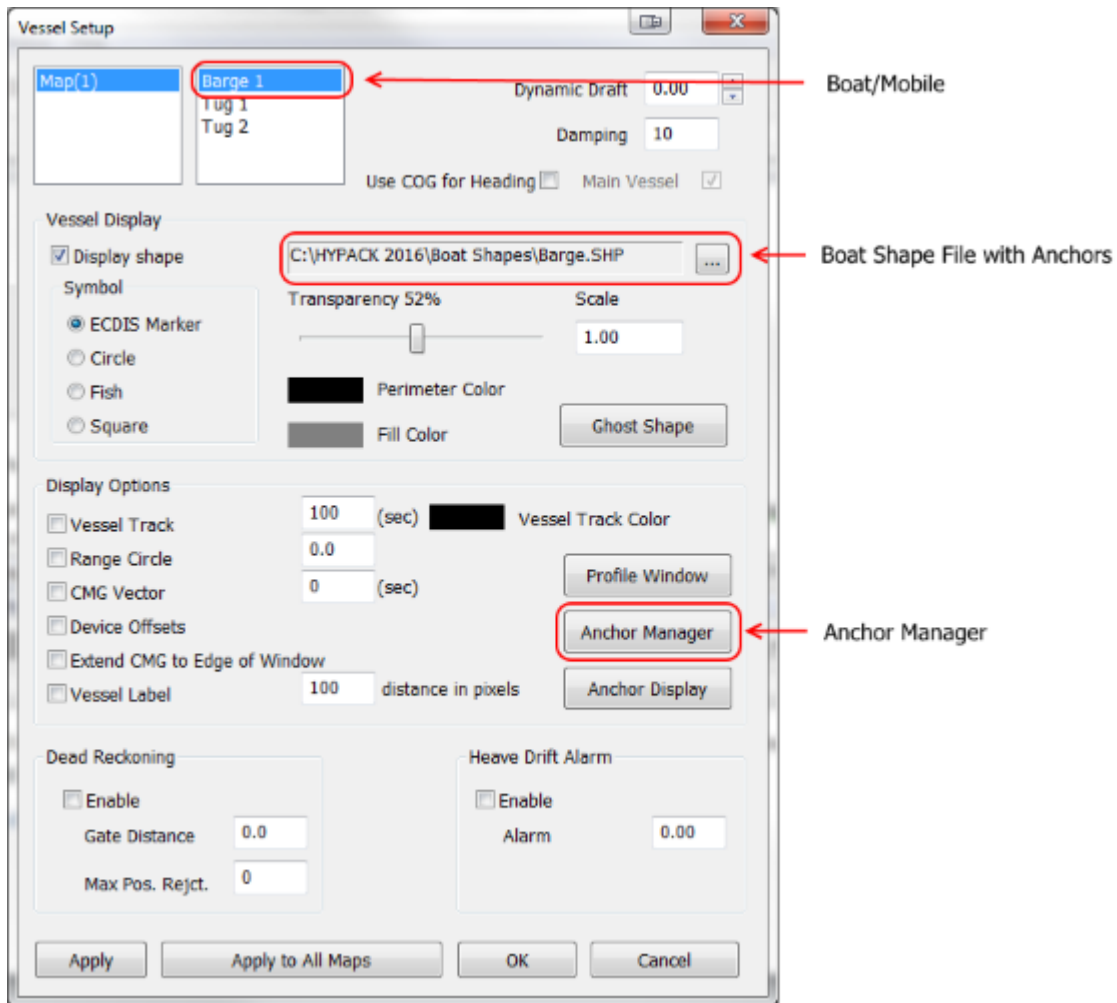


Then, using this shape file in SURVEY or DREDGEPACK®, you can get to the Anchor Manager by selecting Vessels on the main menu. This will bring up the Vessels dialog box.



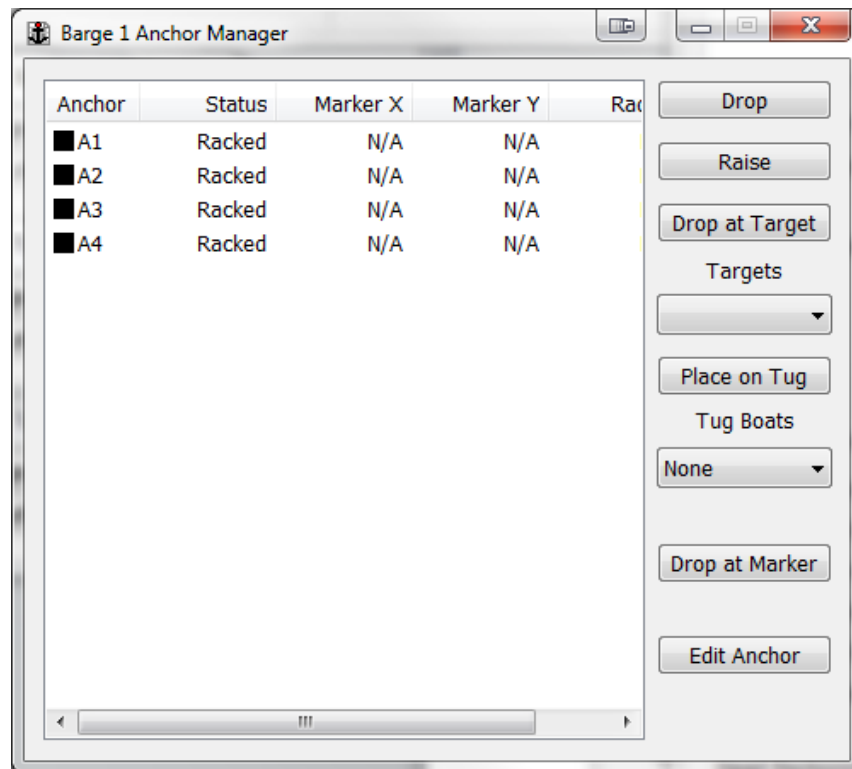
In the Vessels dialog, you select the Boat/Mobile you will be using (usually the main vessel).

FIGURE 2. Selecting the Mobile with the Anchors in the Vessels Dialog Box



Clicking the Anchor Manager button will bring up the Anchor Manager dialog for the boat/mobile. This will only be enabled if the selected boat shape file has anchor points defined.

FIGURE 3. The Anchor Manger Dialog Box

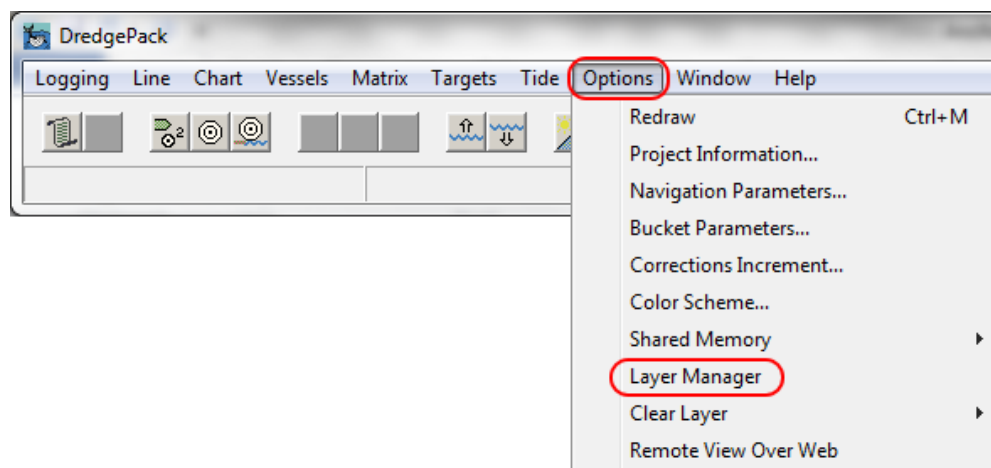


From the Anchor Manager you can drop an anchor at the attachment point, drop it at a target, drop it on a marker, or place it on a tug. You can then drop it from the tug, place it back on a tug, or raise it back to the attachment point.

The last step in seeing the Anchors Sweeps on the map is enabling the layer. This is enabled by default, so this step should not be necessary unless you want to toggle their visibility.

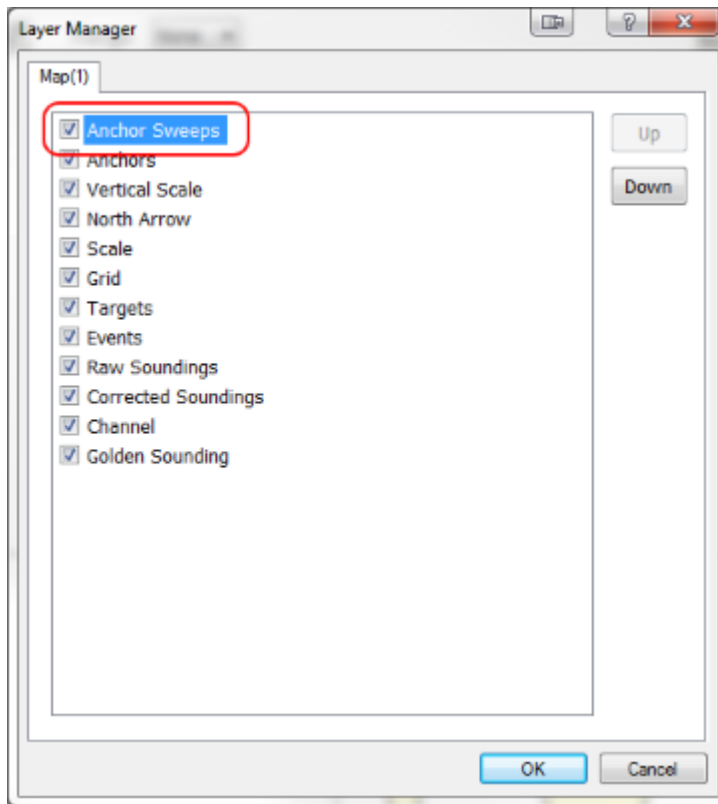
To enable or disable the sweeps from drawing on the map select OPTIONS-LAYER MANAGER from the main menu.

FIGURE 4. Opening the Layer Manager



In the Layer Manager Dialog, you can enable or disable the Anchor Sweeps layer.

FIGURE 5. *The Layer Manager Dialog Box*



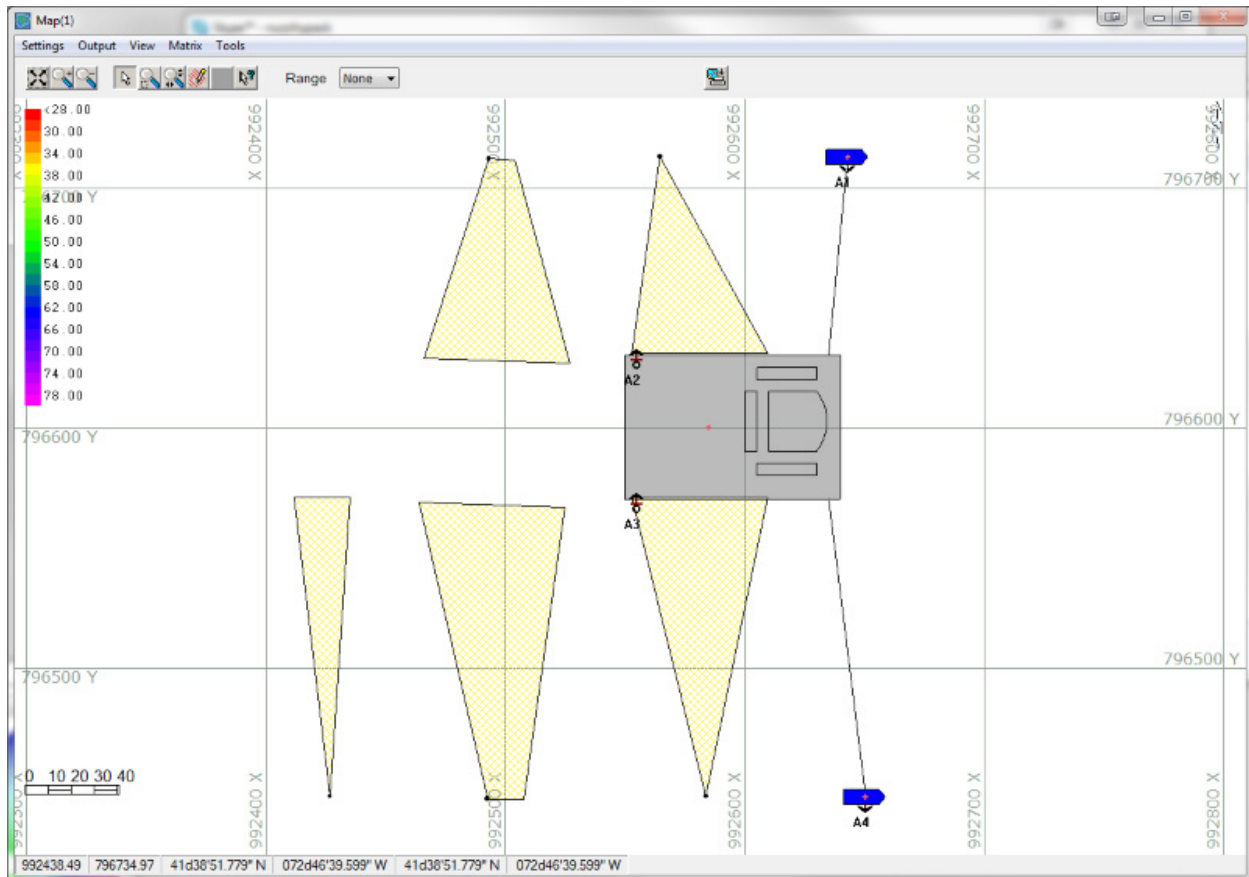
HOW IT WORKS

Figure 6 is a screen capture of the Anchor Sweeps in SURVEY or DREDGEPACK® in a test project. You will see the sweeps are either a three or four sided polygon. When you drop an anchor, the drop point and attachment point get recorded. When you raise the anchor, the anchor point and attachment point get recorded and the 4 points make up the sweep. So, as it is right now, you will only get sweeps if the anchor is being dropped from a tug, target or marker. If you were to drop and raise the anchor from the attachment point, there would be no area, just a straight line. There will be more about that in the Future Development section.

These sweeps get recorded in a file called "Anchors.dg2" in the project directory. This file can be brought in as a chart to the HYPACK® Shell, or HYPLOT, or any other HYPACK® programs that can display a chart. It can also be exported to the CAD formats in the EXPORT TO CAD program.

It is important to note that the release version of HYPACK® 2016 does not have all of the functionality described here. If you are interested in using Anchor Sweeps, please contact us about getting the updates needed.

FIGURE 6. Anchor Sweeps



FUTURE DEVELOPMENT

The limitation of being able to only create a sweep if the anchor was dropped from a tug, target, or marker was quickly pointed out. So, the next step will be to record the attachment point every minute that the anchor is on the bottom. This will make for multi-point polygons, but will cover scenarios where the barge does all the anchor operations.

Also, having the data being recorded to one file for the project could lead to a lot of data or screen clutter, so we are also exploring options to break the data up into multiple files.