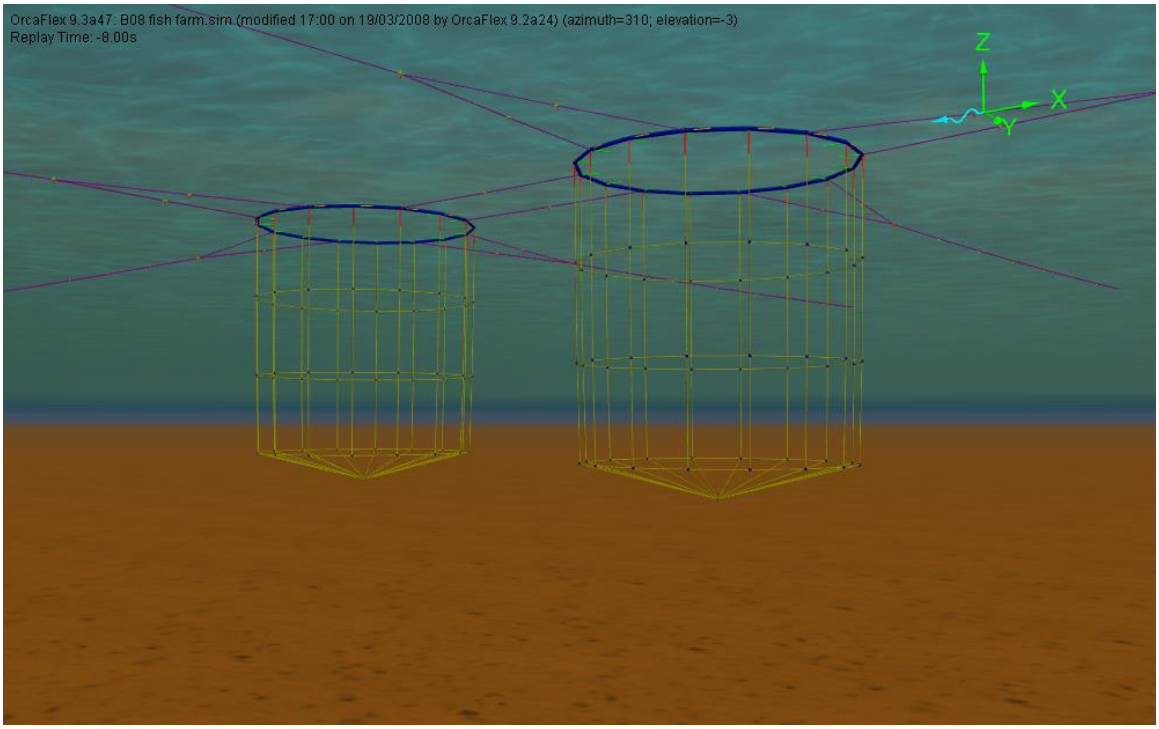
C08 Fish Farm



1. Introduction

Two fish farm cages are modelled. They are connected to each other via moorings to give a 2 cell structure. Be sure to have Model Browser set to View by Groups.

2. Building the model

The important result for this model is the behaviour of the net as a complete entity. This allows the net model to be simplified in two ways:

- The net mesh needs to be modelled in sufficient refinement to show the distribution of loading. This means an equivalent mesh can be generated that has the same resultant loads but does not need to show each individual knot and line. This is basically the same as defining the mesh refinement on a surface for an FE model.
- Detailed motions at each knot and the length of rope between are not required. Therefore the lines can be single segment and the knots can be 3DofF buoys. Pinned connections between the two can be used because bend stiffness is negligible so moment transfer would be too.

These nets are suspended below floating rings. Again single segment lines are used. However the plastic ring does have bend stiffness so the bending moments need to be transferred. Therefore 6DofF buoys and built in connections (end connection stiffness of Infinity) are used.

The whole structure is then moored using more lines.

When building this type of structure use the Group facility to build a basic unit then copy, paste and move within the model browser. Remember you can right click on a model browser group to translate or rotate all objects within it as a whole set. Also, you can copy and paste objects by using the standard Ctrl+C and Ctrl+V shortcut keys.

3. Results

Replay the animation to see the cells respond to the applied loading.