Flowchart for first steps of model

Initialisation Environment Vertical NND Horizontal NND

Set up “box” and alignment speed, separation space and angle to align, etc

Set “normal movement”

For (i in Xth tracks/krill)…..

If (flow > 0) then ….

If (Chla > 0) then ….

If (Guano > 0) then ….

If (Dark) then ….

Else ….

If (NNDh < 0.1) then ….

If (NNDh < 0.01) then ….

If NNDh == 0 then ….

Else ….

If (NNDv < 0.1) then ….

If (NNDv < 0.01) then ….

If NNDv == 0 then ….

Else ….

So, for example it would be something like:

“normal movement” <- (“velocity” == 1, “turn freq” == 1 per 8 steps, “turn angle (ϕ)” == 30°, “turn angle (ø)” == 45°)

For (i in (krill))

If flow > 0 then “velocity” == 3, else “normal movement” applies

If Chla > 0 then “turn freq” == 3 per 8 steps, else “normal movement” applies

If Guano > 0 then “turn angle (ø)” == 80°, else “normal movement” applies

If “dark” then “turn angle (ϕ)” == 75°, else “normal movement” applies

If (0.01< NNDv > 0.1) then “align vertical” == ON, else “normal movement” applies

If (0.01< NNDh > 0.1) then “align horizontal” == ON, else “normal movement” applies