**Processing Wildlife Computer’s Mk9**

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1. **Assuming the tag data has been imported into Instrument Helper and saved into a local folder, open DAP Processor**
   1. Click “File”
      1. Click “Import Tag Data”
         1. Click “From File”
            1. Select the Wildlife Computers file (Graphical user interface, application, Word

               Description automatically generated)
         2. Click “Open”
   2. Click the “Tags” tab
      1. Select “Light Level Global Position Estimator” (software will begin to estimate positions)
   3. Click “Abort Automatic Processing” (pop-up box)
      1. Click “Yes”
   4. Click “Settings”
      1. Click “Edit Deploy/Popup Information (pop-up box)
         1. Input the correct release and recapture information for all fields
            1. Click “OK”
   5. Select the “Lat-Long” tab
      1. Click “Recalculate Longitude for all messages” (pop-up box)
         1. Click “No” (model begins to run again)
   6. Scroll to the bottom of the table
      1. Highlight the entire row of the last entry
      2. Click “Reject Record” (Do this until all “bad” data has been rejected)
   7. Select the “Lat-Long” tab
      1. Click “Iterate Lat & Long for all messages” (model begins to run again)
   8. Click “File”
      1. Click “Save Changes and Close” (pop-up boxes disappear)
   9. Click “File”
      1. Click “Export Decoded Data”
         1. Select “Spreadsheet File” (pop-up box)
            1. Click “Save” (pop-up box)

Click “No”

* 1. Close Dap-Processor (pop-up box)
     1. Click “Yes” (pop-up box)
        1. Click “Save”

1. **Open Wildlife Computers Portal** 
   1. Click “Portal” tab
      1. Click “My Data”
         1. Put in credentials
   2. Click the “Upload Data” tab
      1. Select “Choose File”
         1. Navigate to correct folder and select the appropriate Wildlife Computer’s file (Graphical user interface, application, Word

            Description automatically generated)
            1. Click “Open”
      2. Click “Upload” (takes a few minutes)
   3. Click “View Data”
      1. Select the appropriate tag
         1. Click “Download”
2. **Open a file explorer**
   1. Go to Downloads tab
      1. Cut downloaded folder
      2. Paste into the appropriate tag folder
   2. Right click compressed folder
      1. Select “7-zip”
         1. Click “Extract Here” (pop-up box)
            1. Click “No”
3. **Open Instrument Helper**
   1. Press Button To Begin (pop-up box)
      1. Select appropriate tag file (Graphical user interface, application, Word

         Description automatically generated)
         1. Click “Open”
   2. Select the “Archive” tab
   3. Click the “C” button at the bottom left
      1. Click “Channels”
         1. Unselect “Depth”
         2. Select “Light Level”
            1. Click “OK”
   4. Zoom into a region within the days at liberty to get a “rough” estimate of sunset and sunrise – write these values down
   5. Close Instrument Helper
4. **Open the “Mk9 Data Filtering.accdb”** 
   1. Click the “External Data” tab
   2. Click the “New Data Source” tab
      1. Click “From File”
      2. Select “Text File” (pop-up box)
         1. Click “Browse”
         2. Adjust file path to appropriate “out-Archive” tag file
            1. Click “Open”
         3. Click “OK”
         4. Click “Next”
            1. Select “First Row Contains Field Names”
         5. Click “Next
            1. Select the “Advanced” tab

Highlight only the “Time” row

Change “Date Order” to “DMY”

Click “OK”

* + - 1. Click “Next”
         1. Select “No primary key.”
      2. Click “Next”
         1. Add the unique tag code to the end of the Table Name
         2. Click “Finish”
         3. Click “Close”
  1. Right click “Qry1\_date filter”
     1. Select “Design View”
        1. Add the new “Out-Archive\_tagnumber” table
        2. Change the “Table source” to the appropriate table
        3. Adjust the “Date” criteria to match appropriate tag (\*\*\*make sure to do one day past recapture date\*\*\*)
        4. Remove the old table
     2. Save the “Qry1\_date filter”
     3. Click “Run
  2. Right click “Qry2\_night & depth filter”
     1. Select “Design View”
        1. Change the “Time” criteria to match appropriate tag
     2. Save the “Qry2\_night & depth filter”
     3. Click “Run
  3. Right click “Qry3\_avg sst”
     1. Select “Design View”
     2. Click “Run
  4. Copy the data to be pasted into a blank Excel spreadsheet

1. **Open a blank Excel spreadsheet**
   1. Copy and paste the “dDate” and “AvgOfStalk Temp” from Access “Qry3\_avg sst” into the blank Excel spreadsheet
      1. Delete the top row labelled “Qry3\_avg sst”
   2. Copy and paste (Ctrl + C 🡪 Ctrl + V) “Date”, “Latitude”, and “Longitude” data from the “tagnumber-Locations.csv” file next to the “AvgOfStalk Temp” column, leaving a space in between
   3. Write “sst” in the column heading beside “Longitude”
   4. Now use the =VLOOKUP() function to apply the accurate sst value to “Dates” with two locations per day (i.e., =VLOOKUP(D2, $A$2:$B$356, 2)
   5. Copy and paste all the data as “**Values (V**)” back into A1 (this breaks the reference function)
   6. Insert 3 additional columns between “Date” and “Latitude”
   7. Highlight the new columns and change their format to “General”
   8. Separate the “Date” into day, month, and year columns
      1. In the second column
         1. Label day
         2. Use function =DAY()
         3. Autofill the data down
      2. In the third column
         1. Label month
         2. Use function =MONTH()
         3. Autofill the data down
      3. In the fourth column
         1. Label year
         2. Use function =YEAR()
         3. Autofill the data down
      4. Copy and paste all the data as “**Values (V**)” (this breaks the reference function)
   9. Overwrite (or add) the existing release and recapture locations with the known release and recapture data
      1. \*\*\*If the tag doesn’t provide data up until the recapture date, then we cannot assign a recapture location\*\*\*
   10. You will also likely need to delete the first “sst” value, because it is likely a half day that can skew the data
   11. Move the “Longitude” column in front of the “Latitude” column
   12. Insert a new column between “Longitude” and “Latitude”
       1. Label it “lon”
       2. Relabel “Latitude” to “lat”
       3. Add 360 to the existing “lon” value (UKFSST code will not read negative values)
          1. Autofill down
       4. Copy and paste all the data as “**Values** **(V)**” (this breaks the reference function)
   13. Delete the “dDate”, “AvgOfStalk Temp” “Date”, and “Longitude” columns
   14. Save Excel spreadsheet as “tagnumber\_R.csv”
   15. Save and close all opened files
2. **Open R Studio**
   1. Copy and paste Location Processing code into a new R Script
   2. Replace the existing tag ID with the new tag ID
      * 1. Ctrl + F and replace
   3. Load in sources file and tag data csv file
   4. Start with UKFSST model where…
      1. bx.a = F
      2. by.a = T
      3. bsst.a = F
   5. Once model convergence has been obtained, take the resulting model parameters, and try to turn model parameters back to “T”
   6. Use the fit2csv() function
   7. Save the file as “tagnumber\_R Code.R”
   8. Close R Studio