WILDLIFE COMPUTERS

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PLOTTING WET/DRY DATA TO DETECT BIOFOULING IN R

Note: You will need the following packages installed: readr, dplyr, and ggplot2.

1. **Download the data from the Wildlife Computers Data Portal, or directly from the tag.**
2. **Load the 'Status.csv' file into R.**

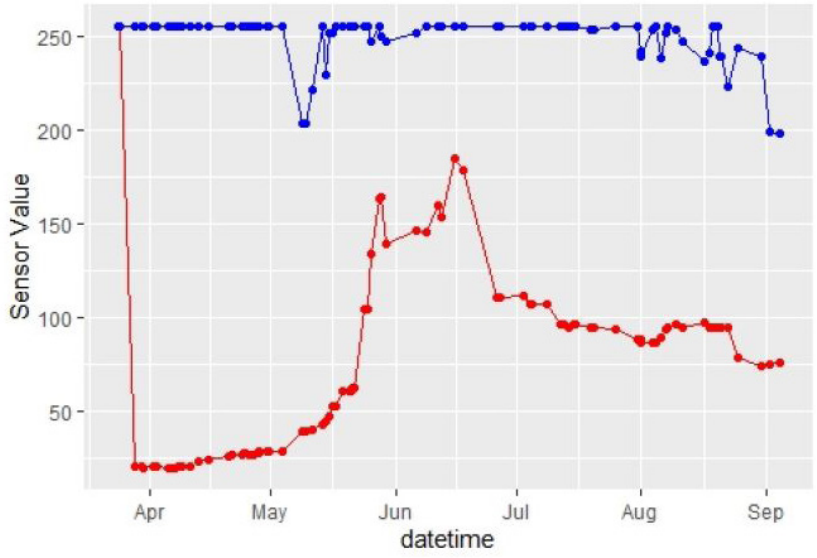
   Make sure you change the file path to the folder containing your data. Also note that this code uses 'tidy' syntax, which connects multiple functions together with the pipe %>% operator. This is essentially one continuous line of code that is split into two lines for easier visibility. It will not work if you run line 2 without line 1.

```
library(readr)
library(dplyr)

# load the data, create a date-time column, and keep only CRC-checked rows
# you will need to change the filename 'Status.csv' below to the xx-Status.csv filename of your dataset

status <- read_csv('Status.csv') %>%
mutate(datetime=as.POSIXct(Received, format="%H:%M:%S %d-%b-%Y")) %>% filter(Type=='CRC')
```

3. **Plot the Data to Identify Biofouling**

```
library(ggplot2)
ggplot(data=status)+
geom_line(aes(x=datetime,y=MinWetDry,color="Min"))+
geom_point(aes(x=datetime,y=MinWetDry,color="Min"))+
geom_line(aes(x=datetime,y=MaxWetDry,color="Max"))+
geom_point(aes(x=datetime,y=MaxWetDry,color="Max"))+
ylab('Sensor Value')+
scale_colour_manual(values=c("blue", "red"))
```

You should now have a time series view of the wet/dry data. See example below.



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