Summarizing Age Data

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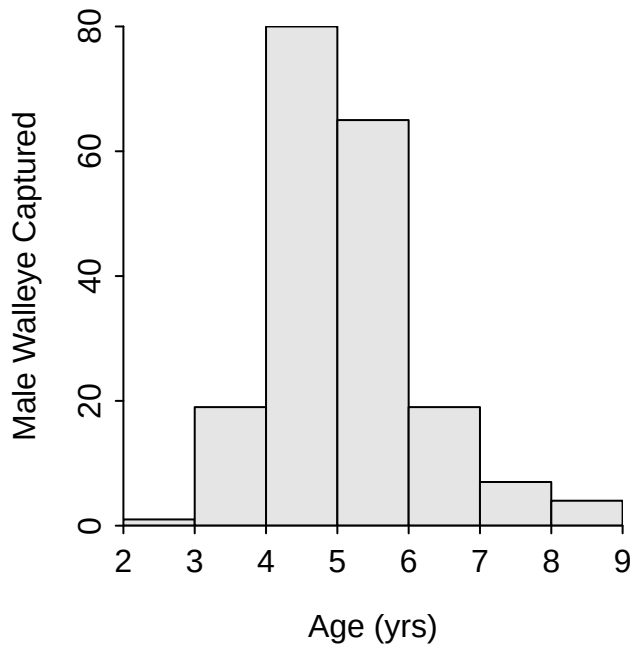
Preliminaries

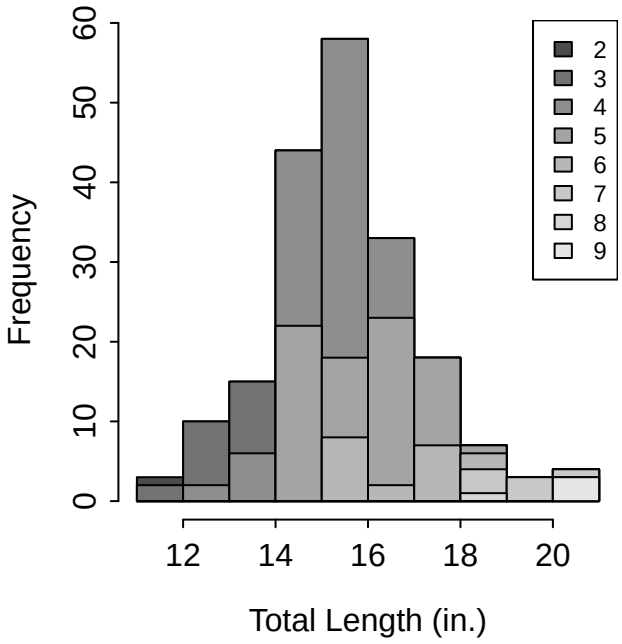
```
> source("02_AgeLengthKey.R")
```

```
> ls()
 [1] "btxs"        "btys"        "clrs"        "fit1"        "fit2"        "fit3"
 [7] "fn"          "hook1"       "lm1"         "mc1"         "ruf"         "ruf2"
[13] "ruf90"       "ruf9000"     "symbs"       "tmp"         "tmpx"        "tmpy"
[19] "wae.aged"    "waeF.fnl"    "waeM.fnl"    "waeM.sumlen" "xs"          "ys"
```

```
> hist(~Age..observed.annuli.,data=waeM.fnl,xlab="Age (yrs)",ylab="Male Walleye Captured")
```



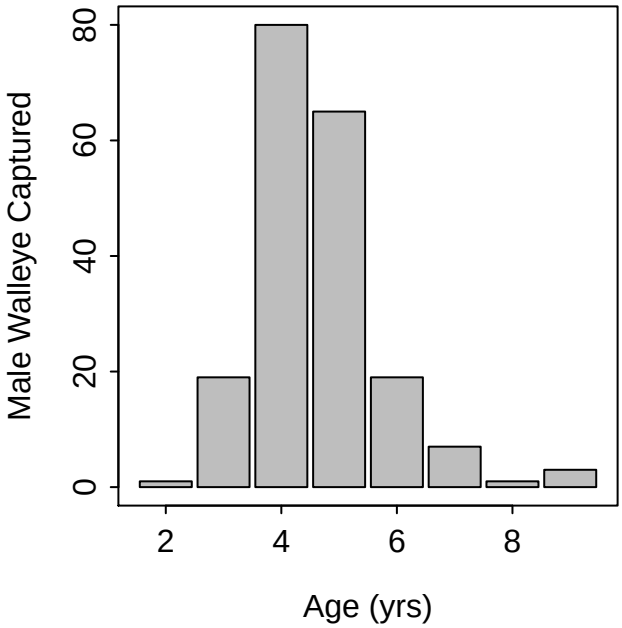

```
> histStack(Length.or.Lower.Length.IN~Age..observed.annuli.,data=waeM.fnl,xlab="Total Length (in.)",
            col="gray.colors",right=FALSE,legend.pos="topright")
Warning in histStack.default(mf[, 1], mf[, 2], breaks = breaks, col = col, : z was converted to a
factor
```



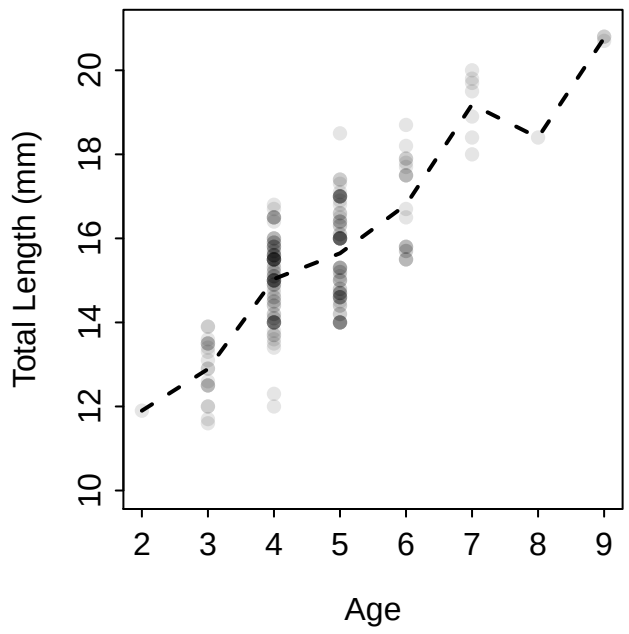

```
> waeM.sumlen <- waeM.fnl %>%
   group_by(Age..observed.annuli.) %>%
   summarize(n=n(),mean=mean(Length.or.Lower.Length.IN),sd=sd(Length.or.Lower.Length.IN),
             min=min(Length.or.Lower.Length.IN),max=max(Length.or.Lower.Length.IN))
> waeM.sumlen
Source: local data frame [8 x 6]

  Age..observed.annuli.  n     mean         sd  min  max
1                     2  1 11.90000        NaN 11.9 11.9
2                     3 19 12.88947 0.72025824 11.6 13.9
3                     4 80 15.03375 0.94265230 12.0 16.8
4                     5 65 15.64462 1.11313616 14.0 18.5
5                     6 19 16.80000 1.10201835 15.5 18.7
6                     7  7 19.18571 0.76469726 18.0 20.0
7                     8  1 18.40000        NaN 18.4 18.4
8                     9  3 20.76667 0.05773503 20.7 20.8

> plotH(n~Age..observed.annuli.,data=waeM.sumlen,xlab="Age (yrs)",ylab="Male Walleye Captured",
       xlim=c(1.5,9.5),width=0.9)
```


Male Walleye Captured
0
20
40
60
80
2
4
6
8
Age (yrs)

```
> plot(Length.or.Lower.Length.IN~Age..observed.annuli.,data=waeM.fnl,pch=16,col=rgb(0,0,0,1/10),
      xlab="Age",ylab="Total Length (mm)",ylim=c(10,21))
> lines(mean~Age..observed.annuli.,data=waeM.sumlen,lwd=2,lty=2)
```



Construct and Aply an Age-Length Key – Females

Copy the code from above and convert the 'M's to 'F's

Application Assignment

Create a script that performs the following tasks:

1. Continue or `source()` your previous script.
2. Summarize the age distribution from the fish in your sample.
3. Show the mean length-at-age for all fish in your sample in both tabular and graphical forms.
4. (*Time Permitting*) Show the length frequency for all fish in your sample.
5. (*Time Permitting*) Repeat the above for your second sex or species.

Save your script!