

Summarizing Age Data

Derek H. Ogle, Northland College

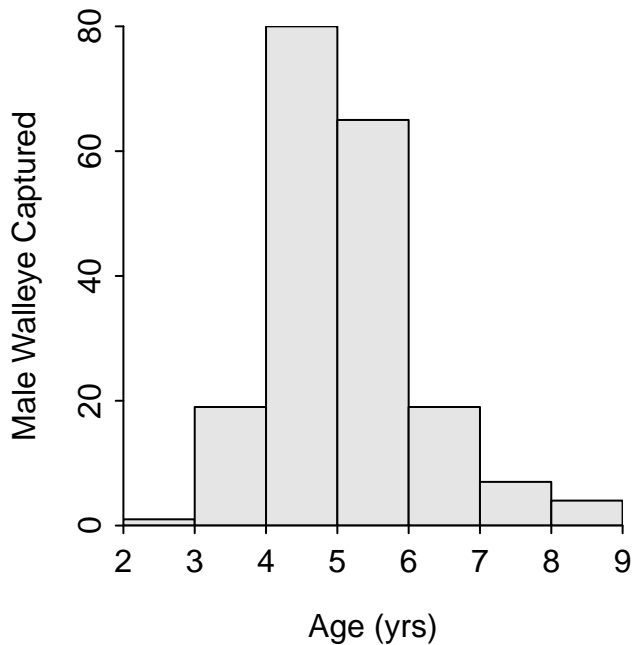
5-Mar-2015

Preliminaries

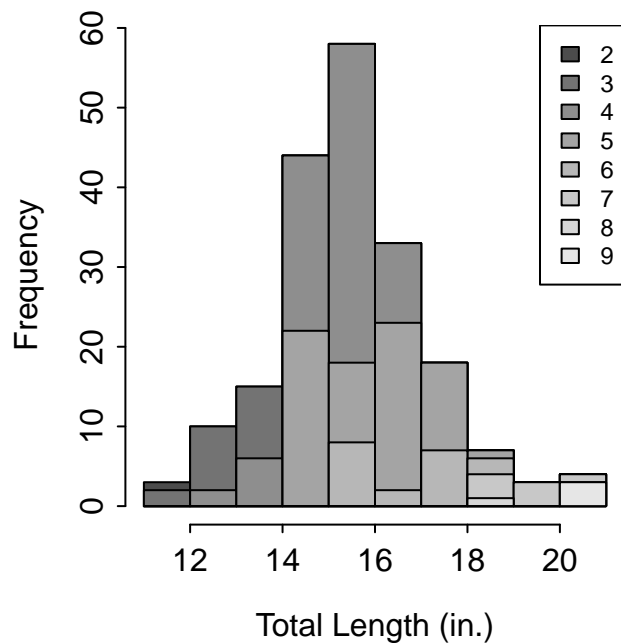
```
> source("02_AgeLengthKey.R")

> ls()
[1] "ages"      "BGSpr"      "BGSprLC"    "brks"      "clr"        "clrs"
[7] "crap"      "d1"         "fn"         "freq"      "hook1"      "LCblg"
[13] "LCblgPREF" "lmM"        "lmMF"       "rcum"      "Spr"        "SprLC"
[19] "sturgWts"  "tmp"        "wae.aged"   "waeF.fnl"  "waeF.sumlen" "waeM.fnl"
[25] "waeM.sumlen"

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



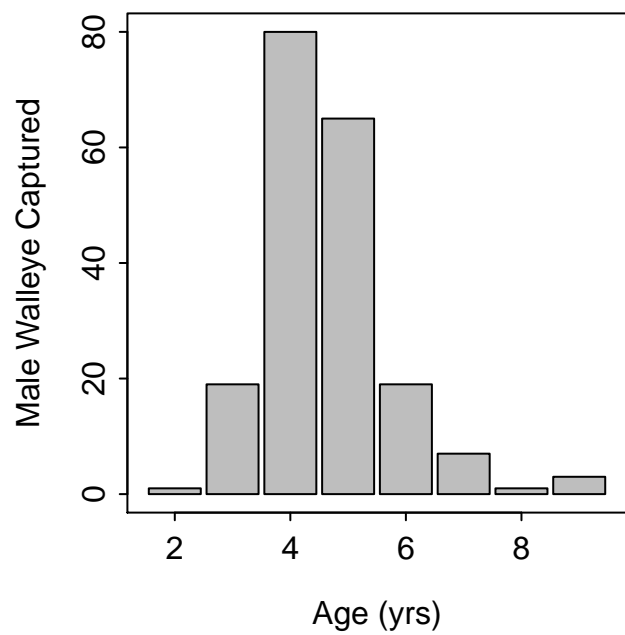
```
> histStack(Length.or.Lower.Length.IN~Age..observed.annuli.,data=waeM.fnl,xlab="Total Length (in.)",
            col="gray.colors",right=FALSE,legend.pos="topright")
Warning in histStack.default(mf[, 1], mf[, 2], breaks = breaks, col = col, : z was converted to a
factor
```



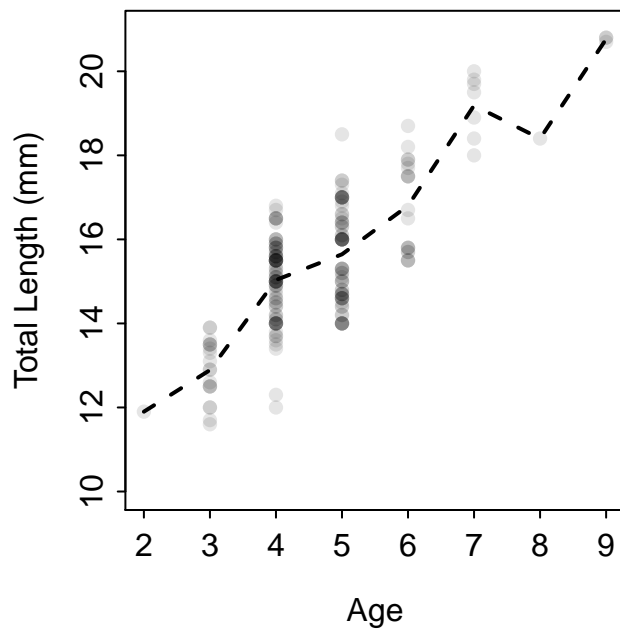
```
> waeM.sumlen <- waeM.fnl %>%
  group_by(Age..observed.annuli.) %>%
  summarize(n=n(),mean=mean(Length.or.Lower.Length.IN),sd=sd(Length.or.Lower.Length.IN),
            min=min(Length.or.Lower.Length.IN),max=max(Length.or.Lower.Length.IN))
> waeM.sumlen
Source: local data frame [8 x 6]

  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)
```



```
> plot(Length.or.Lower.Length.IN~Age..observed.annuli.,data=waeM.fn1,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 Apply 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!