

Apply An Age-Length Key

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Source the Previous Script

```
> source("scripts/02_ALKConstruction.R") # appropriately set the working directory before this
> ls()
[1] "ALK.obs"      "ALK.sm"      "hook1"      "lens"      "mlr"      "raw"      "sp.age"
[8] "sp.age.mod"  "sp.len"      "SpotVA2"    "tmp"

> headtail(sp.len)
      t1 age
1   9.6 NA
2   9.4 NA
3   9.1 NA
329 9.6 NA
330 7.5 NA
331 7.4 NA
```

Apply ALK using Isermann-Knight Method

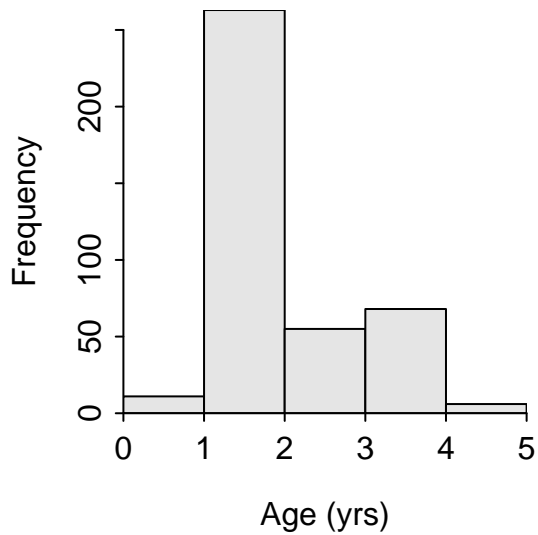
```
> sp.len.mod <- alkIndivAge(ALK.obs,age~t1,data=sp.len)
> headtail(sp.len.mod)
      t1 age
1   9.6  1
2   9.4  2
3   9.1  1
329 9.6  1
330 7.5  1
331 7.4  1
```

Summarize Final Results

```
> sp.comb <- rbind(sp.age,sp.len.mod)
> str(sp.comb)
'data.frame':  403 obs. of  2 variables:
 $ t1 : num  10.6 7.1 12.3 9.7 11.2 8.9 12.6 7.6 10 7 ...
 $ age: num  1 1 3 2 3 1 3 1 1 1 ...

> agefreq <- xtabs(~age,data=sp.comb)
> prop.table(agefreq)
age
      0      1      2      3      4
0.02729529 0.65260546 0.13647643 0.16873449 0.01488834
```

```
> hist(~age,data=sp.comb,breaks=0:5,xlab="Age (yrs)")
```



```
> ( sp.sum <- Summarize(tl~age,data=sp.comb,digits=2) )
```

Warning: RHS variable was converted to a factor.

	age	n	nvalid	mean	sd	min	Q1	median	Q3	max	percZero
1	0	11	11	8.05	0.86	6.3	8.15	8.2	8.45	8.9	0
2	1	263	263	9.08	1.17	7.0	8.20	9.0	9.90	12.4	0
3	2	55	55	11.04	1.12	9.3	9.85	11.2	11.95	12.9	0
4	3	68	68	12.04	0.86	11.0	11.30	11.7	12.80	13.9	0
5	4	6	6	13.27	0.53	12.7	12.82	13.2	13.73	13.9	0

```
> plot(tl~age,data=sp.comb,ylab="Total Length (mm)",xlab="Age (yrs)",pch=16,col=rgb(0,0,0,0.1))
```

```
> lines(mean~fact2num(age),data=sp.sum,col="blue",lwd=2)
```

