Vessel as factor:

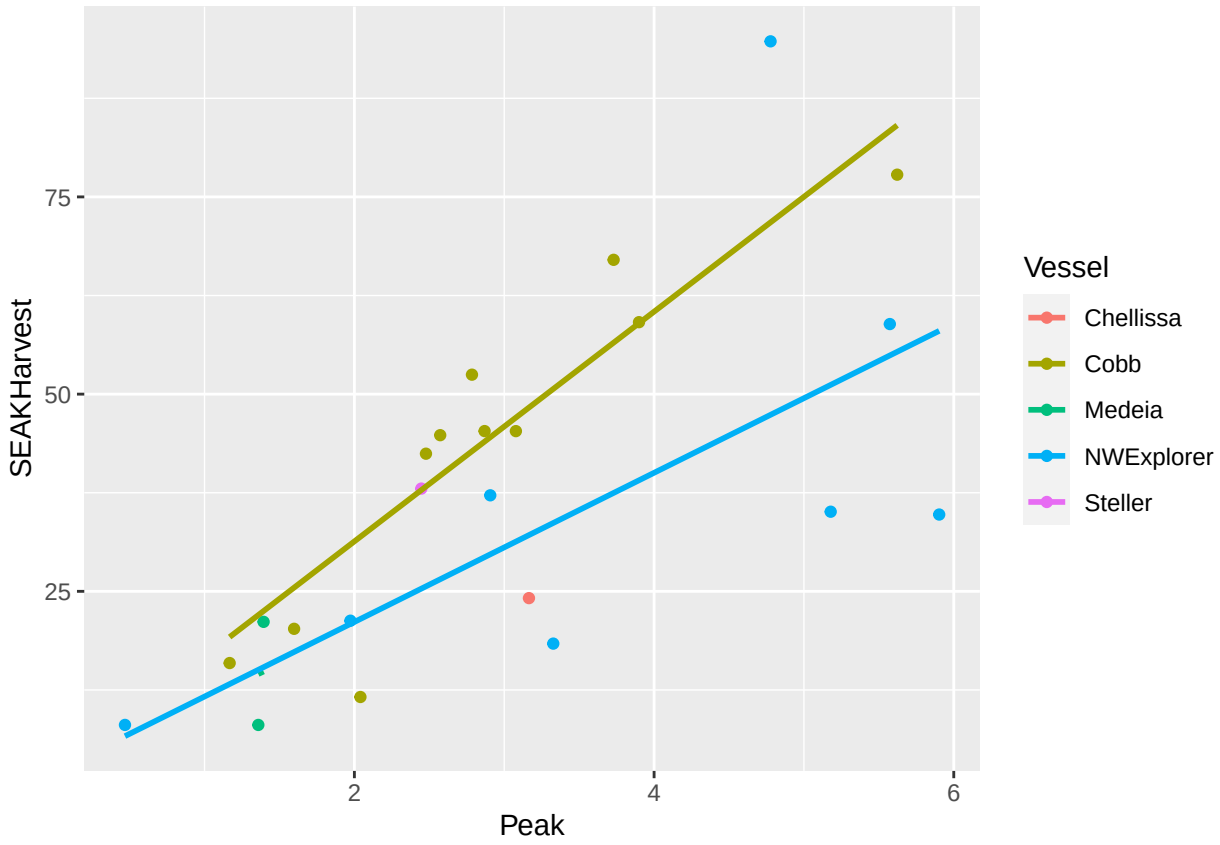
A conceptual framework for defining calibration coefficients without fishing power experiments. We do not have direct estimates of the fishing power of the NWExplorer, which is a si don't belive we have enough years of the Medeia to adequately estimate the calibration coefficient for the Medeia, but I believe we should examine this in another two years.

```
setwd('C:/Users/jim.murphy/Work/Projects/2021/SECM')
options(contrasts = rep ("contr.treatment", 2))
pinkcpue<-read.csv(file='JPink_CPUE.csv')
d<-dim(pinkcpue)
pinkcpue<-pinkcpue[-d[1],]

fit<-lm(SEAKHarvest~Vessel:Peak,pinkcpue)
summary(fit)
```

```
##
## Call:
## lm(formula = SEAKHarvest ~ Vessel:Peak, data = pinkcpue)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -23.283  -5.740   0.135   4.645  47.343
##
## Coefficients:
##                         Estimate Std. Error t value Pr(>|t|)
## (Intercept)                2.206      9.024   0.244 0.809826
## VesselChellissa:Peak       6.931      5.713   1.213 0.241674
## VesselCobb:Peak           14.561      3.083   4.724 0.000196 ***
## VesselMedeia:Peak          9.062     10.380   0.873 0.394823
## VesselNWExplorer:Peak      9.455      2.361   4.004 0.000918 ***
## VesselSteller:Peak        14.639      7.390   1.981 0.064022 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15.67 on 17 degrees of freedom
## Multiple R-squared:  0.6326, Adjusted R-squared:  0.5245
## F-statistic: 5.853 on 5 and 17 DF,  p-value: 0.002537
```

```
p <- ggplot(data = cbind(pinkcpue, pred = predict(fit)),
  aes(x = Peak, y = SEAKHarvest, color = Vessel))
p+geom_point() + geom_line(aes(y = pred),size=1)
```


SEAKHarvest
75
50
25
2
4
6
Peak
Vessel
Chellissa
Cobb
Medeia
NWExplorer
Steller