Tanner Expansion 2019

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Total reported harvest by permit type and area:

|  |  |  |
| --- | --- | --- |
| areacode | crab\_count | days |
| ABC | 345 | 148 |
| D | 217 | 123 |
| E | 7757 | 2846 |
| NA | 0 | 677 |

Total number of non-respondents:

## # A tibble: 6 x 3  
## # Groups: type [3]  
## type reported count  
## <chr> <chr> <int>  
## 1 SPORT no 139  
## 2 SPORT yes 1363  
## 3 SPORT& Subsistence no 6  
## 4 SPORT& Subsistence yes 50  
## 5 SUBSISTENCE no 21  
## 6 SUBSISTENCE yes 102

So we see that 166 people failed to respond.

Next, we will estimate the number of non-respondents that fished:

First we need to find the proportion of late responders that fished in each area:

## # A tibble: 6 x 3  
## # Groups: areacode [3]  
## areacode late count  
## <chr> <chr> <int>  
## 1 ABC no 67  
## 2 ABC yes 81  
## 3 D no 56  
## 4 D yes 67  
## 5 E no 2192  
## 6 E yes 654

So we will assume the proportion of non-responders that fished in each area is the same as the proportion of late responders that fished in each area.

|  |  |
| --- | --- |
| area | prop\_non\_rspd\_fished |
| ABC | 0.1009975 |
| D | 0.0835411 |
| E | 0.8154613 |

Next, we’ll find the mean harvest per area:

## # A tibble: 3 x 2  
## areacode mean  
## <chr> <dbl>  
## 1 ABC 2.48  
## 2 D 1.73  
## 3 E 2.72

Finally, to find our expanded harvest numbers, we will multiply total non-respondents, by the porportion we expected to fish in each area, times the average catch

|  |  |  |
| --- | --- | --- |
| areacode | crab\_count | days |
| ABC | 43 | 17 |
| D | 25 | 14 |
| E | 382 | 140 |

Next we’ll estimate standard errors for the above estimates:

|  |  |  |
| --- | --- | --- |
| areacode | se\_counts | se\_days |
| ABC | 16 | 1.8 |
| D | 24 | 1.7 |
| E | 138 | 2.4 |