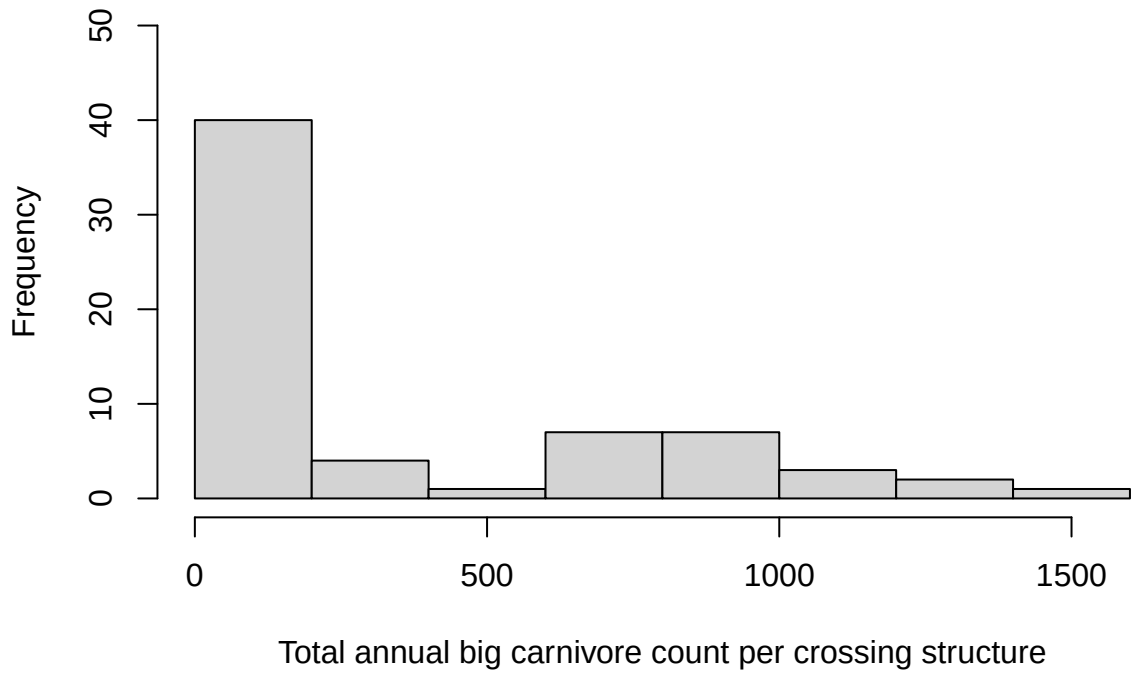
Crossing structures data exploration

Look for outliers in guild

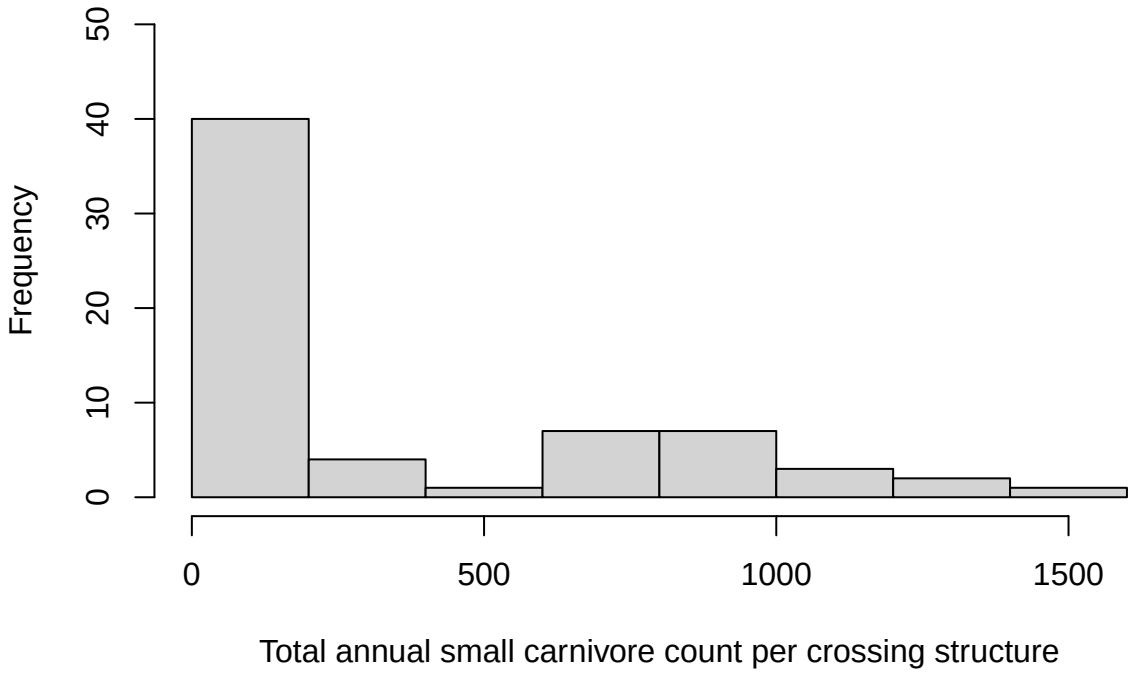
```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     5.0    40.0   117.0   351.2   713.0  1464.0
```

Figure 1



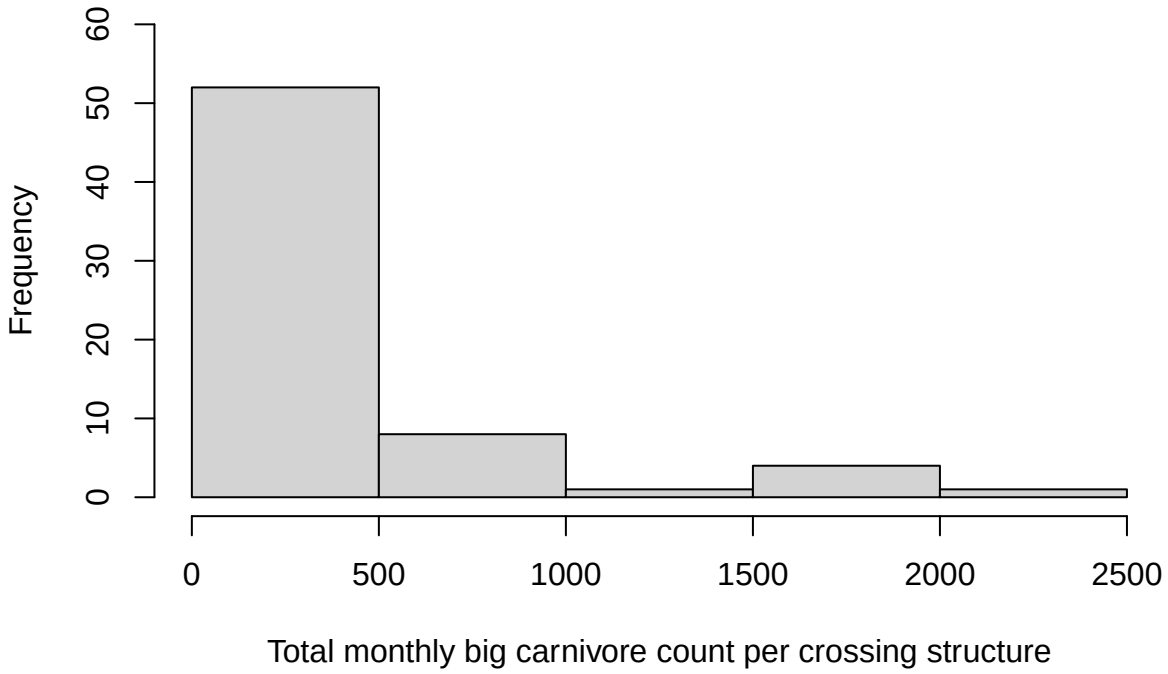

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     5.0    35.0   112.0   345.7   668.0  1482.0
```

Figure 2



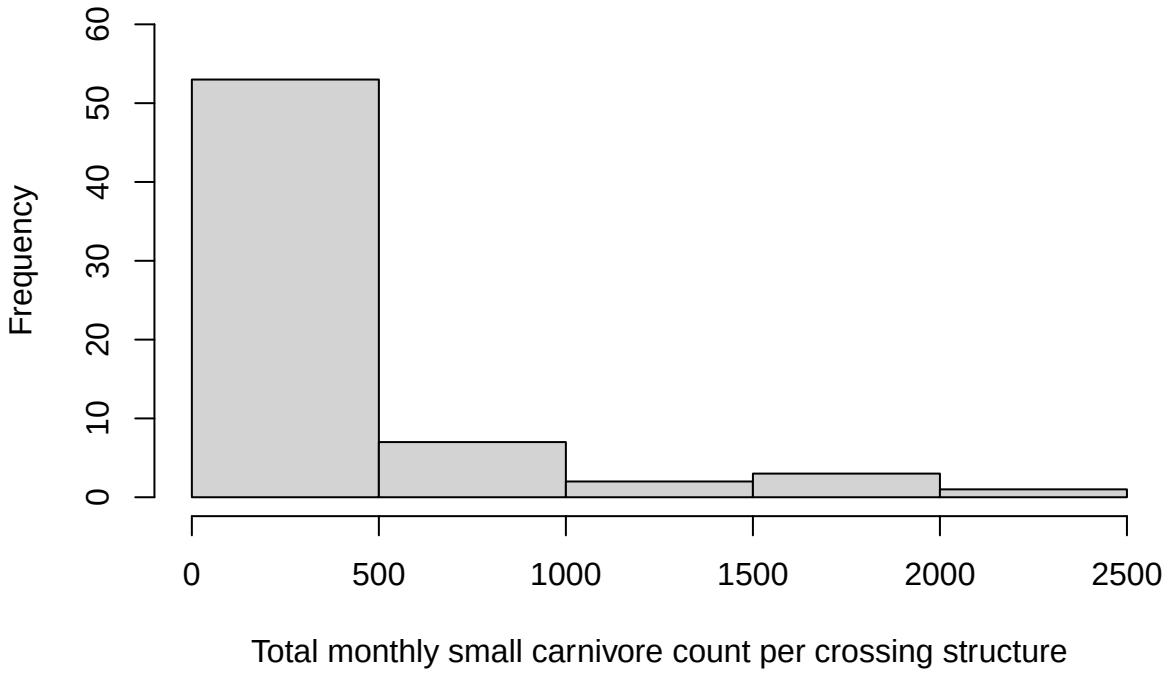

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0    22.0    86.0   298.2   232.8  2265.0
```

Figure 3



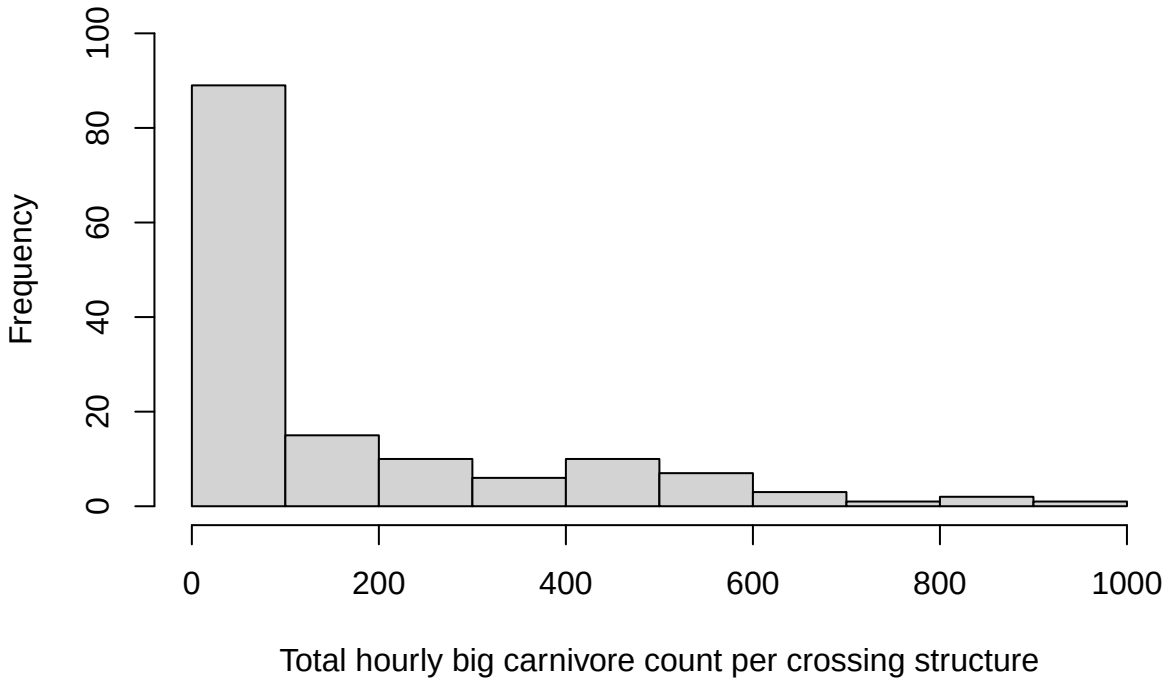

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   21.25   84.00  293.05  232.25 2268.00
```

Figure 4



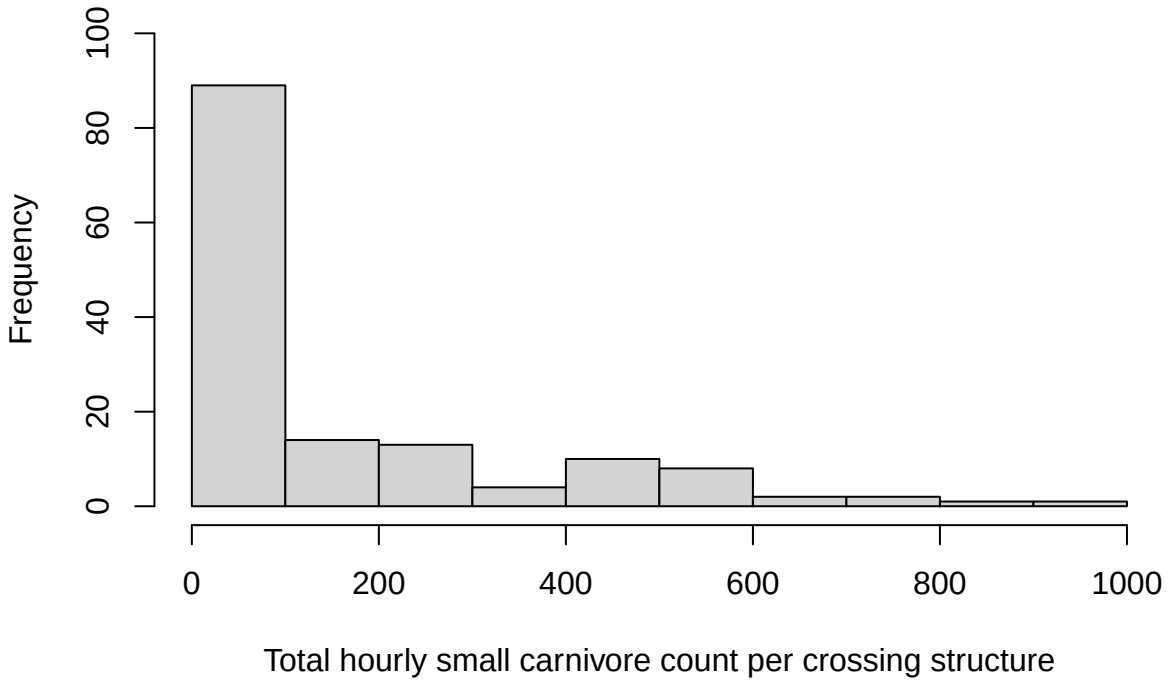

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0    16.0    42.0   157.7   235.8   991.0
```

Figure 5



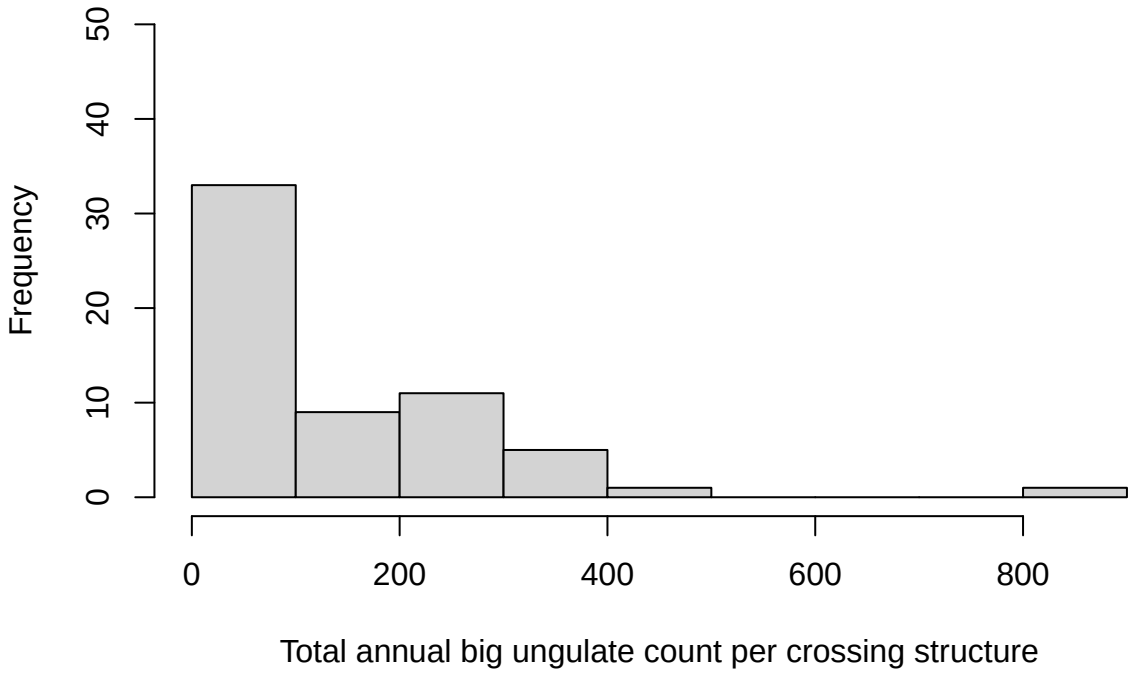

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0    14.0    40.0   155.2   233.0   977.0
```

Figure 6



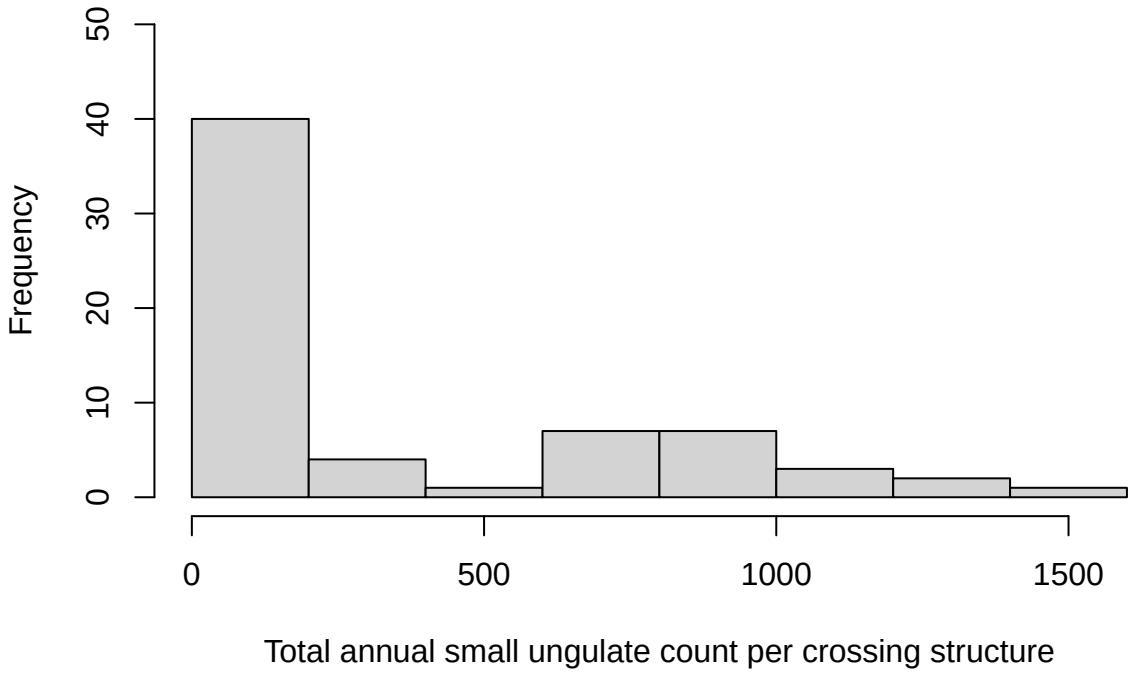

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    1.00   20.25   71.50  124.67  207.25  829.00
```

Figure 7



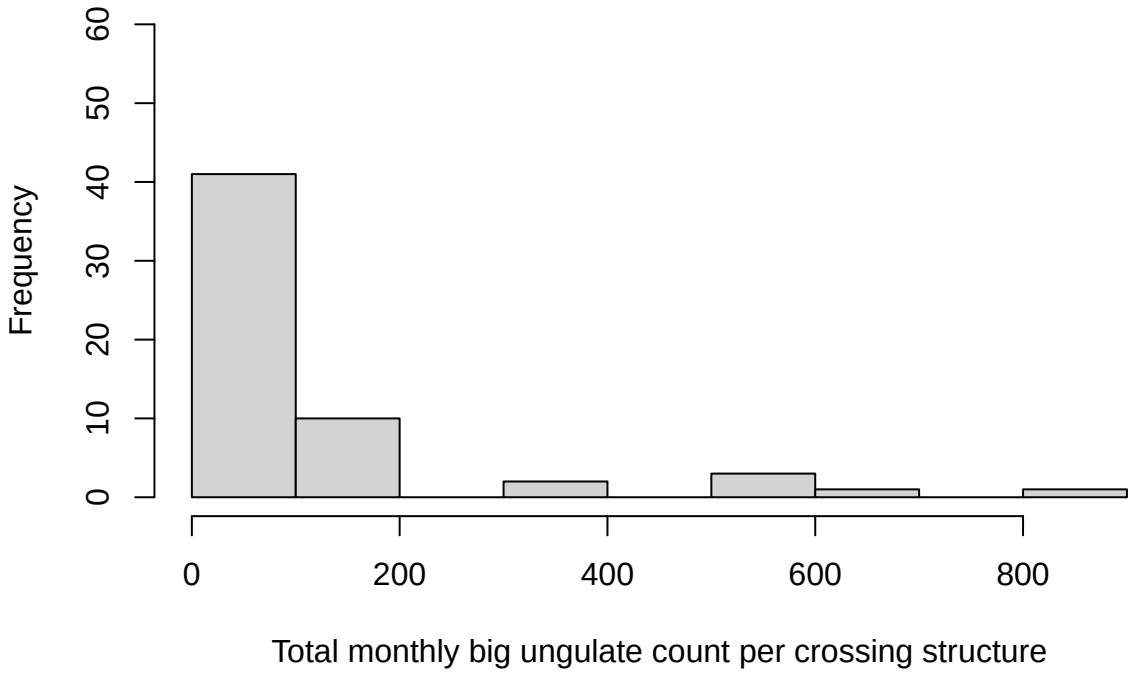

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     5.0    35.0   112.0   345.7   668.0  1482.0
```

Figure 8



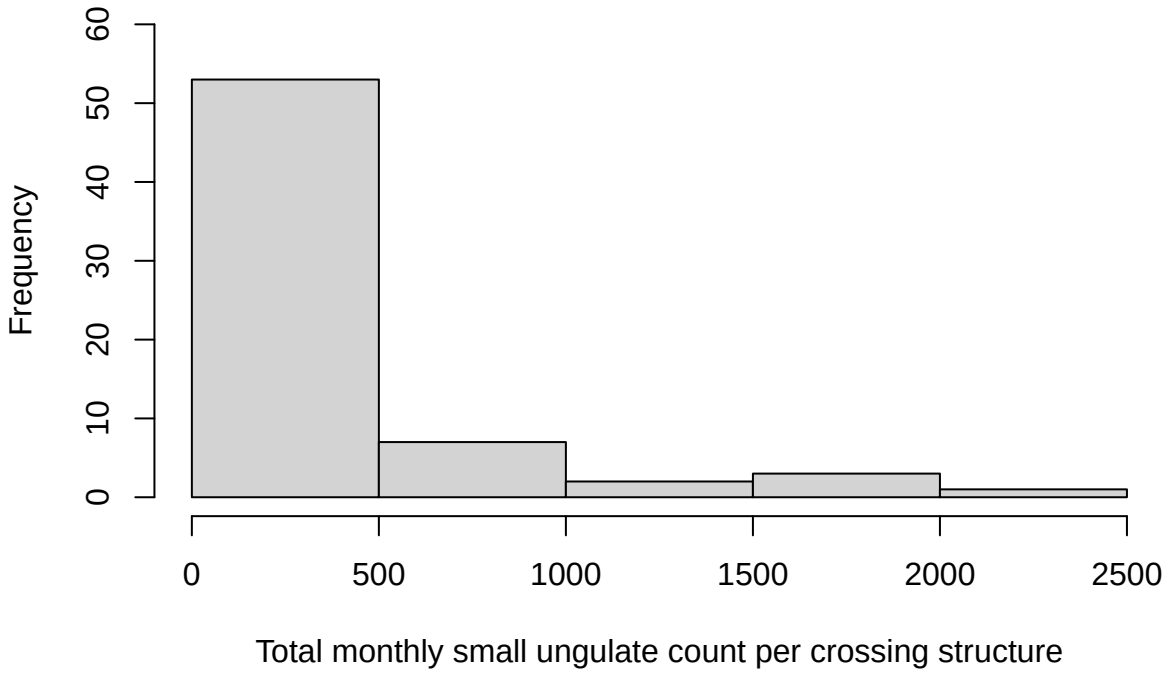

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    1.00   10.25   35.50  110.64  120.00  823.00
```

Figure 9



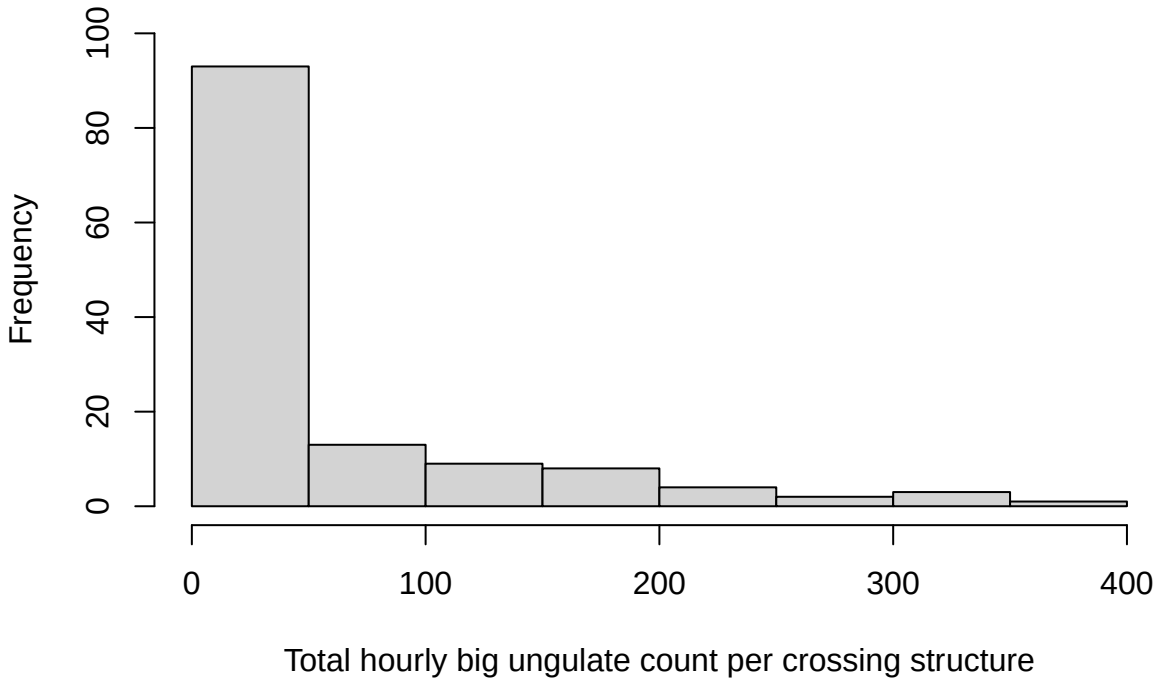

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   21.25   84.00  293.05  232.25 2268.00
```

Figure 10



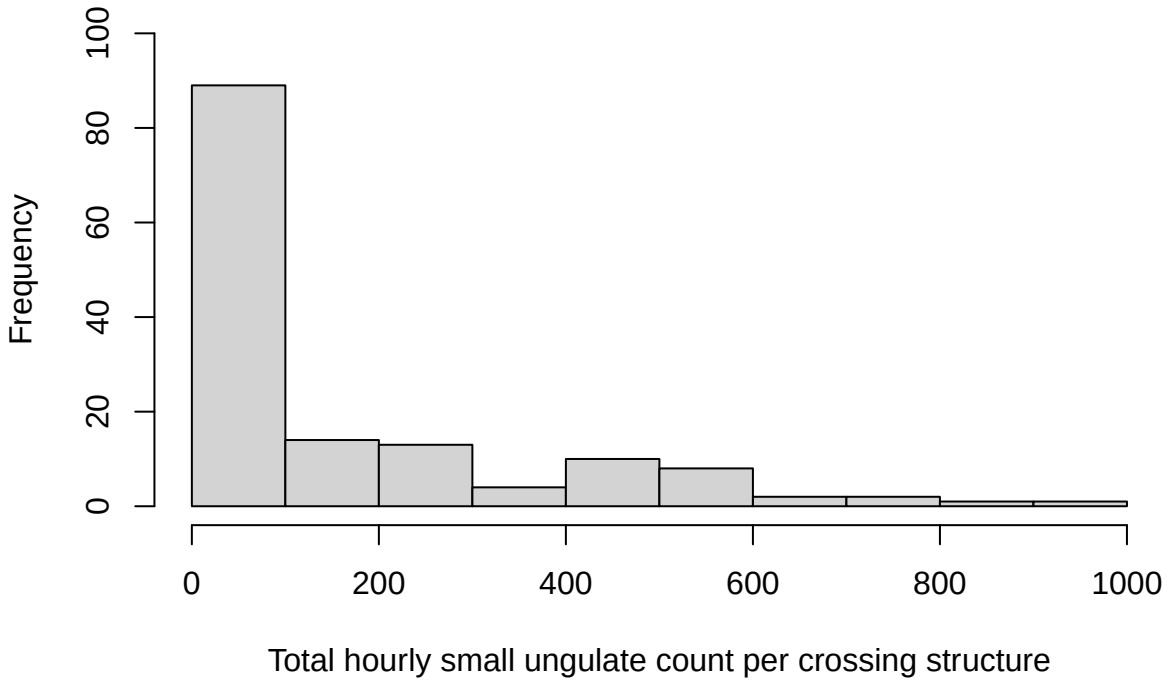

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    1.00    5.00   20.00   55.86   70.00  392.00
```

Figure 11




```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0    14.0    40.0   155.2   233.0   977.0
```

Figure 12



Look for zeros in the data

Proportion of zeros in the carnivore dataset

Table 1: Number of zeros in the dataset divided by the dataset sample size

	Proportion of zeros
Annual_bigcarnivore_count_jumpout	0.00
Annual_bigcarnivore_count_underpass	0.00
Monthly_bigcarnivore_count_jumpout	0.05
Monthly_bigcarnivore_count_underpass	0.00
Hourly_bigcarnivore_count_jumpout	0.01
Hourly_bigcarnivore_count_underpass	0.00
Annual_smallcarnivore_count_jumpout	0.00
Annual_smallcarnivore_count_underpass	0.00
Monthly_smallcarnivore_count_jumpout	0.07
Monthly_smallcarnivore_count_underpass	0.00
Hourly_smallcarnivore_count_jumpout	0.02
Hourly_smallcarnivore_count_underpass	0.00

Proportion of zeros in the ungulate dataset

Table 2: Number of zeros in the dataset divided by the dataset sample size

	Proportion of zeros
Annual_bigungulate_count_jumpout	0.00
Annual_bigungulate_count_underpass	0.00
Monthly_bigungulate_count_jumpout	0.00
Monthly_bigungulate_count_underpass	0.00
Hourly_bigungulate_count_jumpout	0.00
Hourly_bigungulate_count_underpass	0.00
Annual_smallungulate_count_jumpout	0.00
Annual_smallungulate_count_underpass	0.00
Monthly_smallungulate_count_jumpout	0.07
Monthly_smallungulate_count_underpass	0.00
Hourly_smallungulate_count_jumpout	0.02
Hourly_smallungulate_count_underpass	0.00

Check for autocorrelation

Run Box-Pierce and Ljung-Box test on the raw data

Build a model of the mean (lm(count~1)) and run Durbin Watson test to test residuals

Look at the variance and the mean

Annual big carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigcar.ann.count.jump.mod
## DW = 2.0238, p-value = 0.531
## alternative hypothesis: true autocorrelation is greater than 0

##
##  Box-Pierce test
##
## data:  Bigcar.ann.count.jump
## X-squared = 0.044143, df = 1, p-value = 0.8336

##
##  Box-Ljung test
##
## data:  Bigcar.ann.count.jump
## X-squared = 0.047373, df = 1, p-value = 0.8277
```

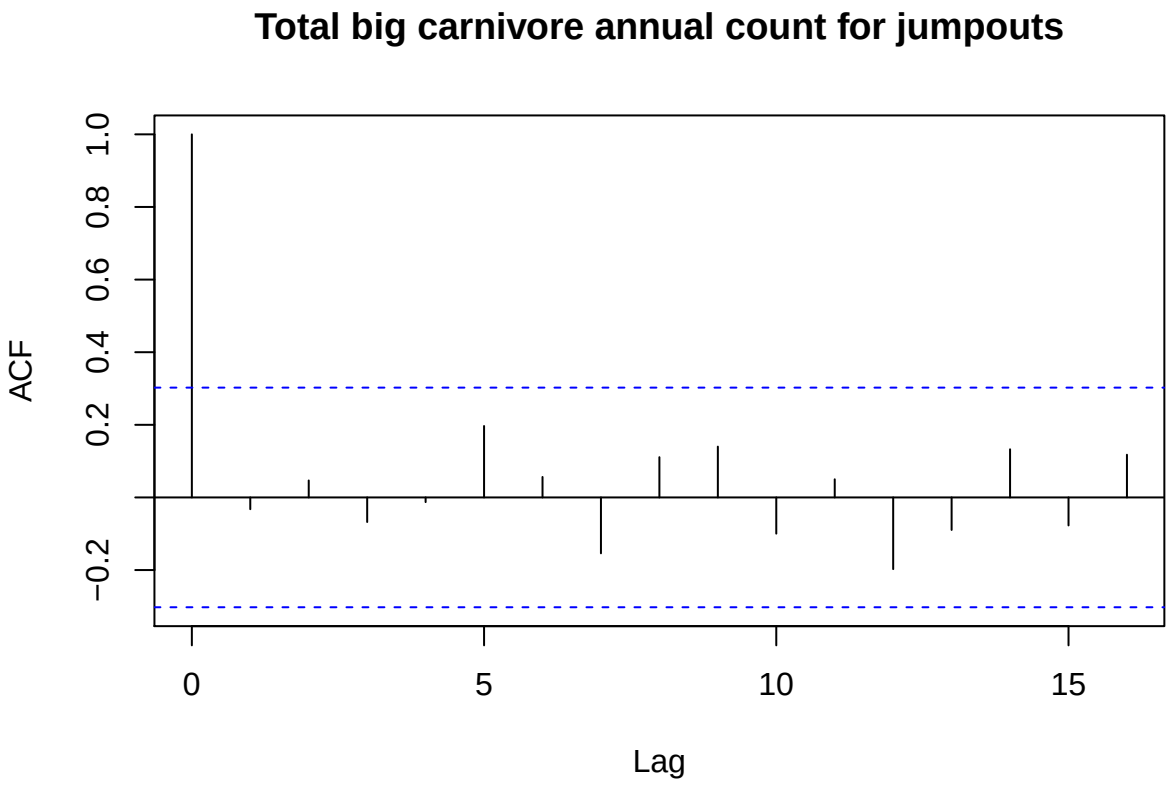
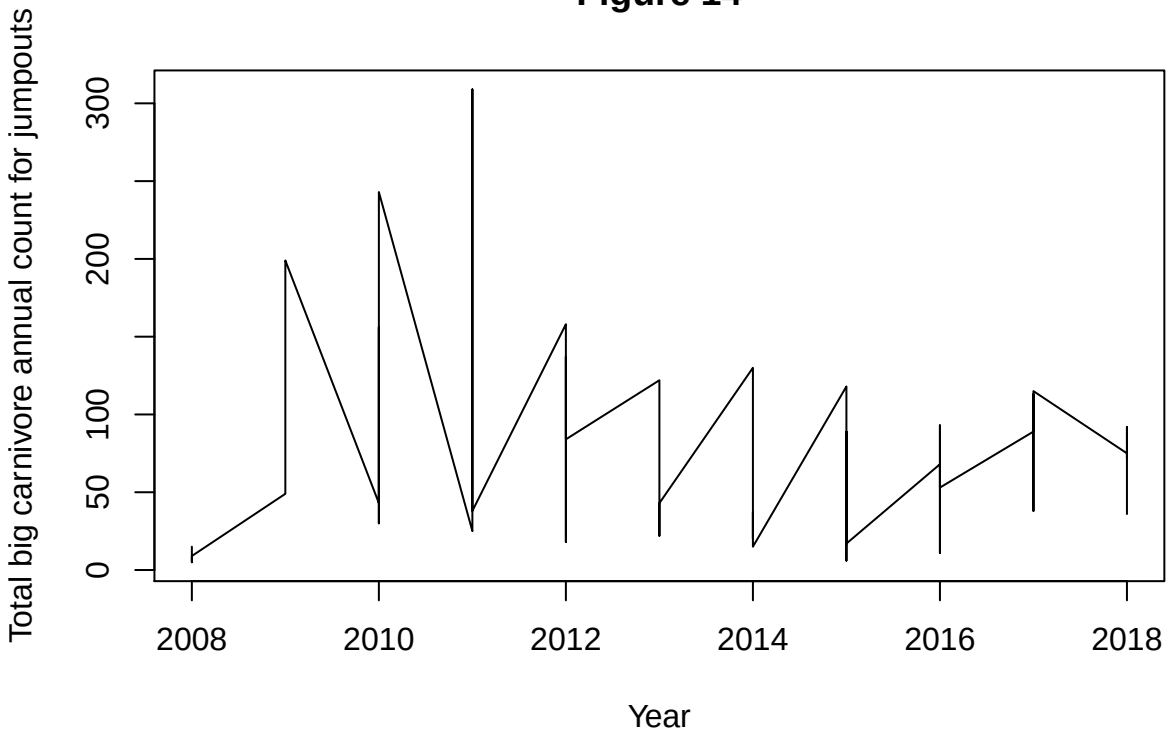

Total big carnivore annual count for jumpouts
ACF
1.0
0.8
0.6
0.4
0.2
−0.2
0
5
10
15
Lag

Figure 14




```
## [1] 4841.685
```

```
## [1] 78.78571
```

Annual small carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Smallcar.ann.count.jump.mod
## DW = 1.9989, p-value = 0.4986
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.ann.count.jump
## X-squared = 0.019538, df = 1, p-value = 0.8888
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.ann.count.jump
## X-squared = 0.020967, df = 1, p-value = 0.8849
```

Figure 15: Total small carnivore annual count for jumpouts

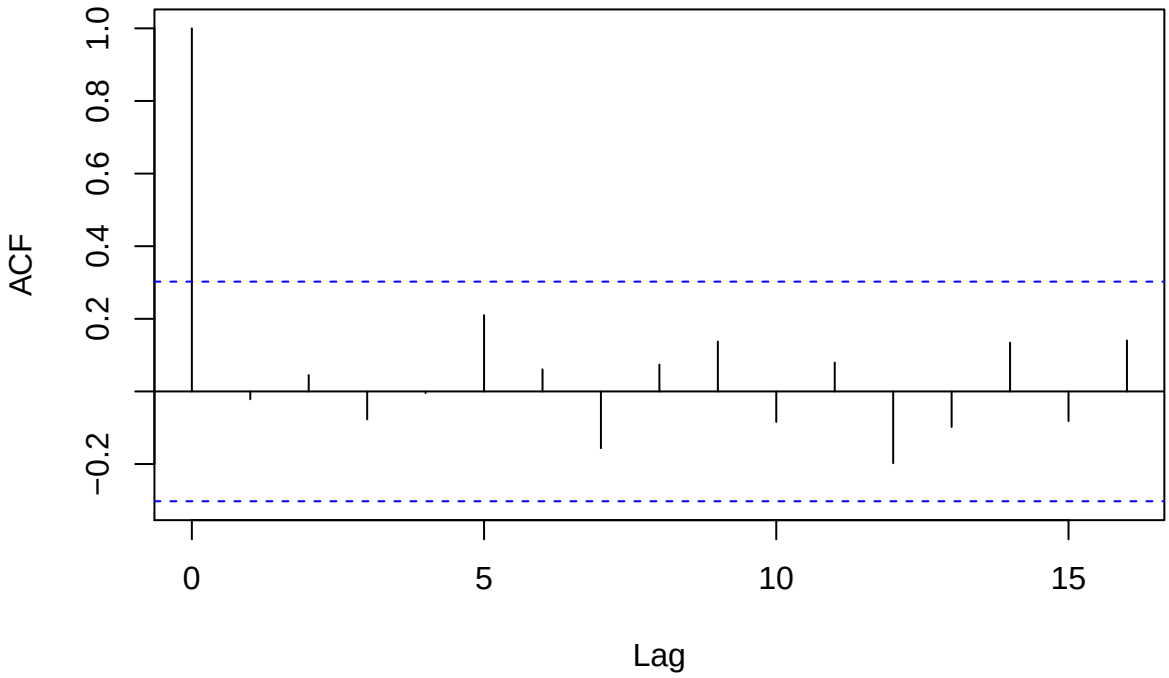
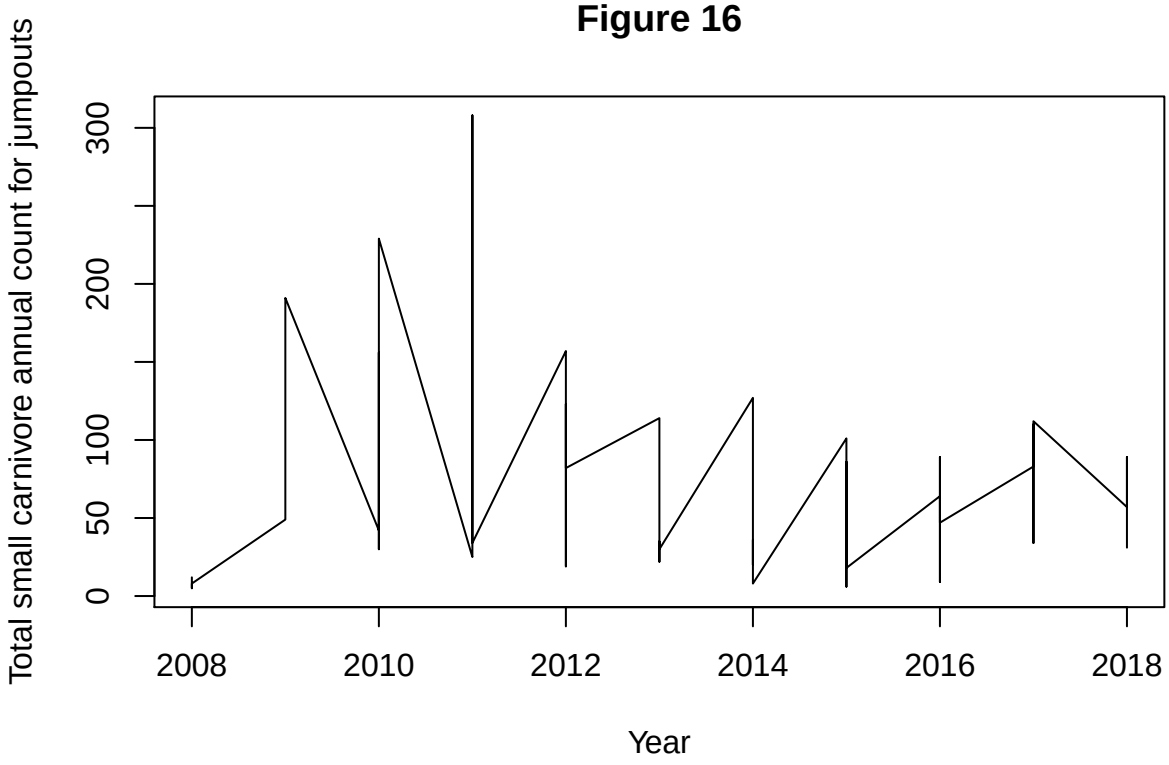


Figure 16




```
## [1] 4607.9
```

```
## [1] 74.61905
```

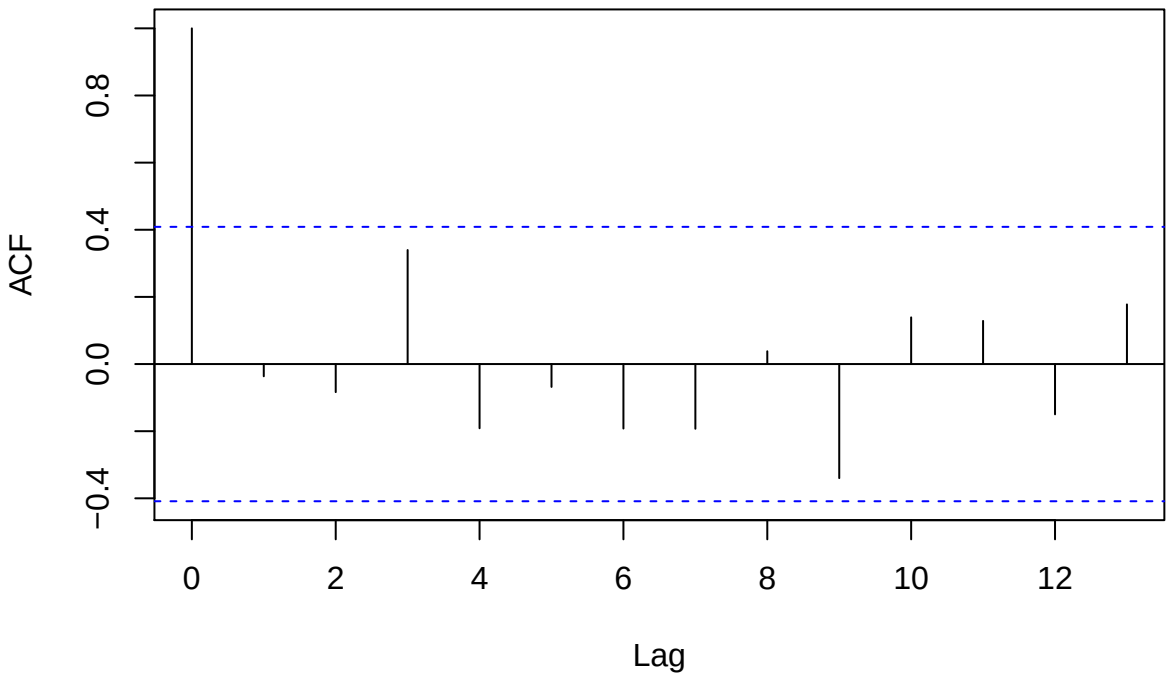
Annual big carnivore count for underpasses

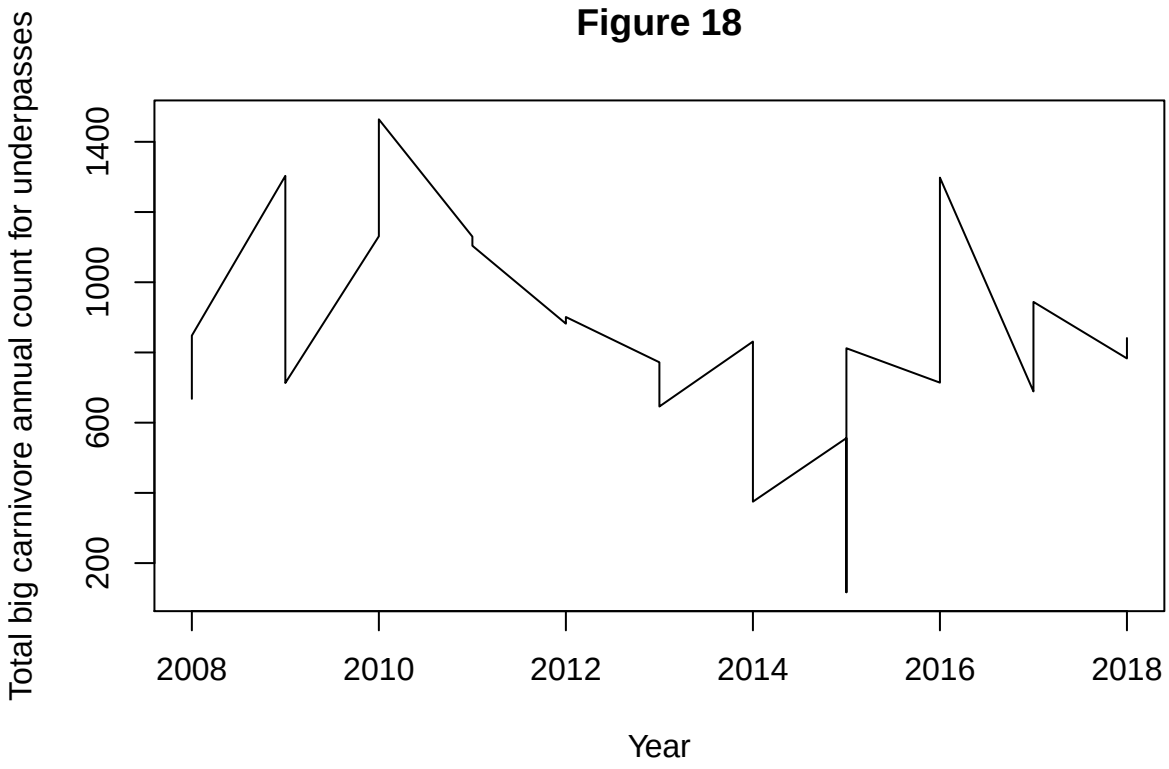
```
##
##  Durbin-Watson test
##
## data:  Bigcar.ann.count.under.mod
## DW = 1.9383, p-value = 0.4404
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigcar.ann.count.under
## X-squared = 0.030542, df = 1, p-value = 0.8613
```

```
##
##  Box-Ljung test
##
## data:  Bigcar.ann.count.under
## X-squared = 0.034706, df = 1, p-value = 0.8522
```

Figure 17: Total big carnivore annual count for underpasses






```
## [1] 91679.63
```

```
## [1] 848.7826
```

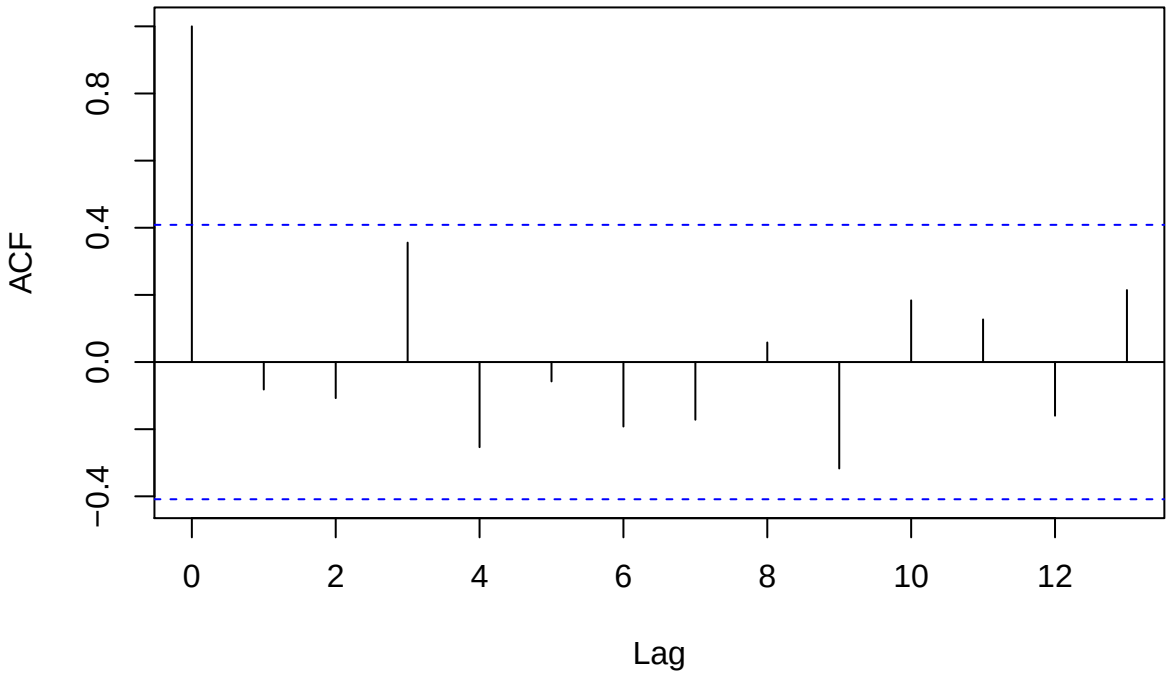
Annual small carnivore count for underpasses

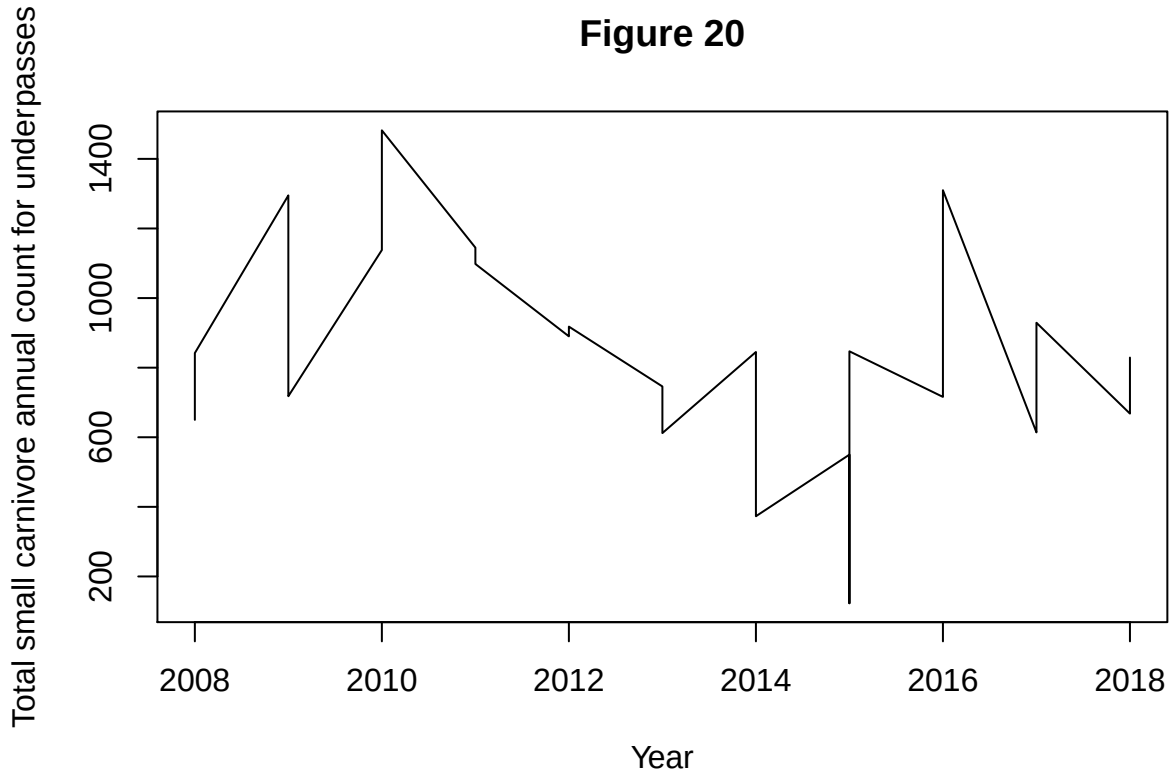
```
##
##  Durbin-Watson test
##
## data:  Smallcar.ann.count.under.mod
## DW = 2.0357, p-value = 0.5346
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.ann.count.under
## X-squared = 0.15411, df = 1, p-value = 0.6946
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.ann.count.under
## X-squared = 0.17513, df = 1, p-value = 0.6756
```

Figure 19: Total small carnivore annual count for underpasses






```
## [1] 96785.91
```

```
## [1] 840.7826
```

Monthly big carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigcar.mon.count.jump.mod
## DW = 1.8103, p-value = 0.2628
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigcar.mon.count.jump
## X-squared = 0.29141, df = 1, p-value = 0.5893
```

```
##
##  Box-Ljung test
##
## data:  Bigcar.mon.count.jump
## X-squared = 0.31174, df = 1, p-value = 0.5766
```

Figure 21:Total big carnivore monthly count for jumpouts

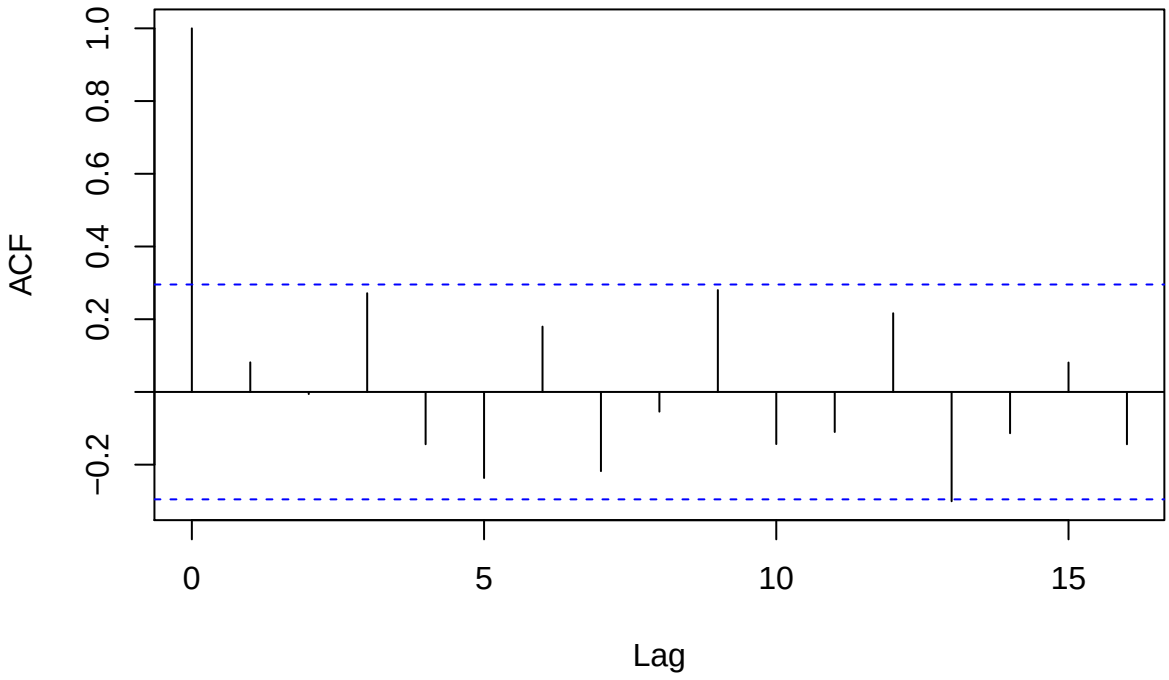
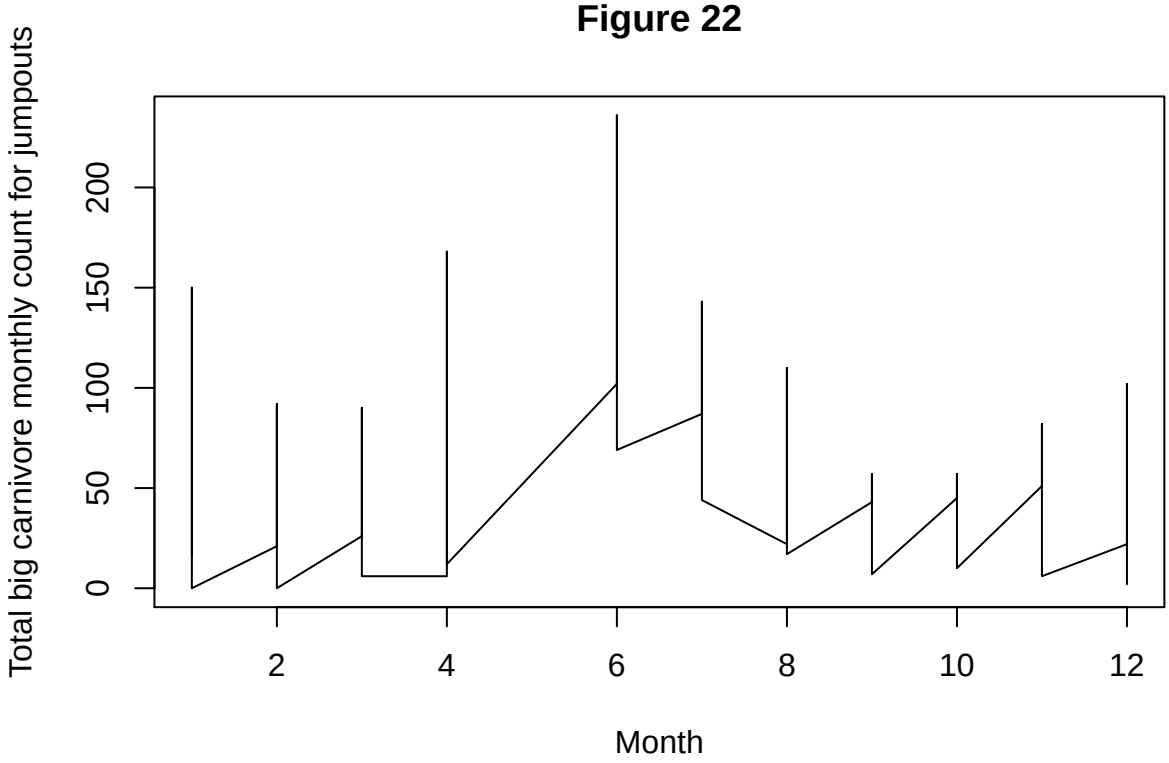


Figure 22




```
## [1] 3094.924
```

```
## [1] 58.77273
```

Monthly small carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Smallcar.mon.count.jump.mod
## DW = 1.776, p-value = 0.2266
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.mon.count.jump
## X-squared = 0.42588, df = 1, p-value = 0.514
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.mon.count.jump
## X-squared = 0.45559, df = 1, p-value = 0.4997
```

Figure 23:Total small carnivore monthly count for jumpouts

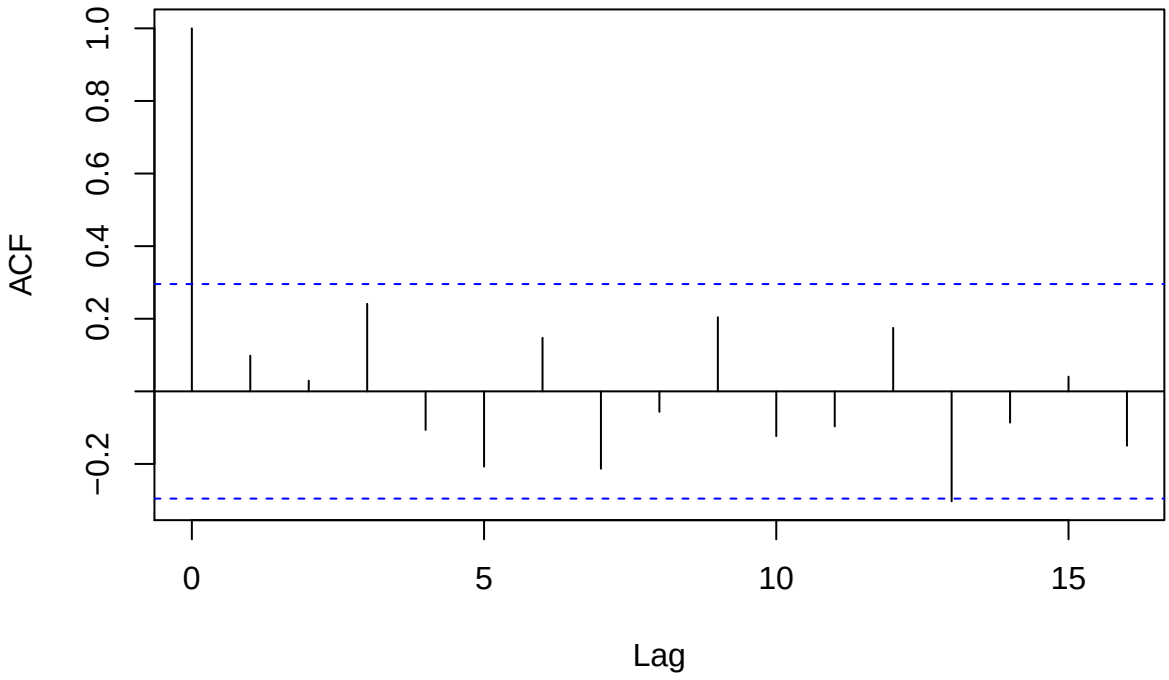
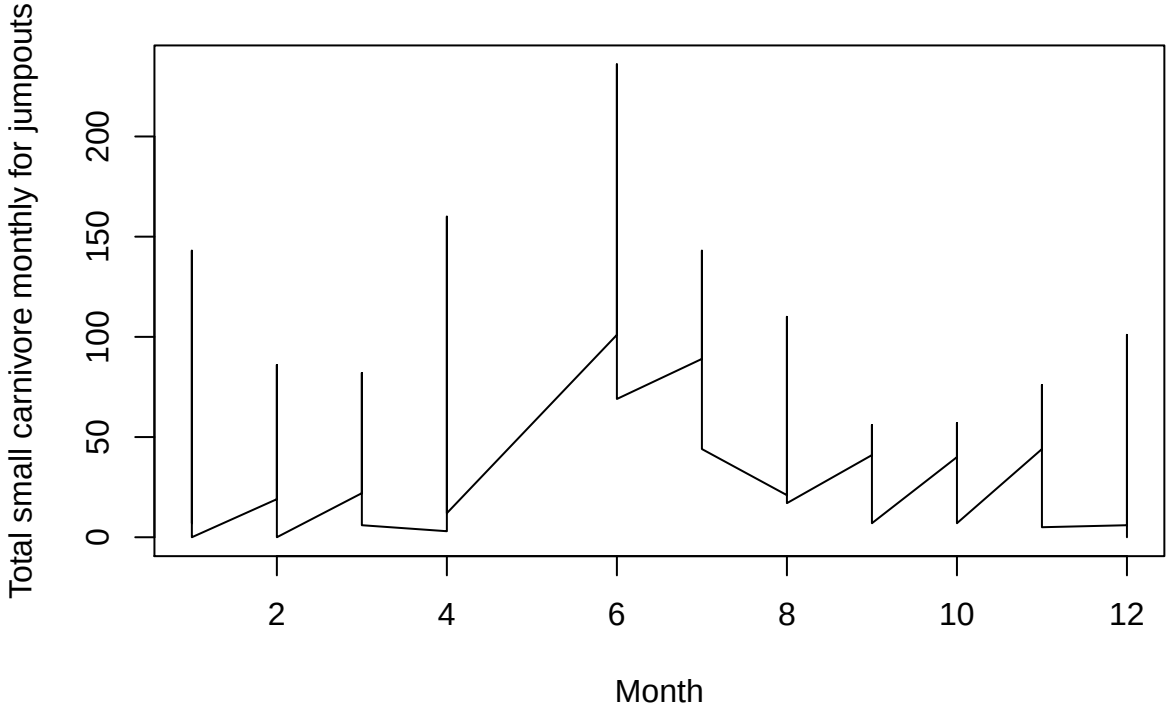


Figure 24




```
## [1] 3114.183
```

```
## [1] 54.84091
```

Monthly big carnivore count for underpasses

```
##
##  Durbin-Watson test
##
## data:  Bigcar.mon.count.under.mod
## DW = 2.2008, p-value = 0.684
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigcar.mon.count.under
## X-squared = 0.37859, df = 1, p-value = 0.5384
```

```
##
##  Box-Ljung test
##
## data:  Bigcar.mon.count.under
## X-squared = 0.43267, df = 1, p-value = 0.5107
```

Figure 25:Total big carnivore monthly count for underpasses

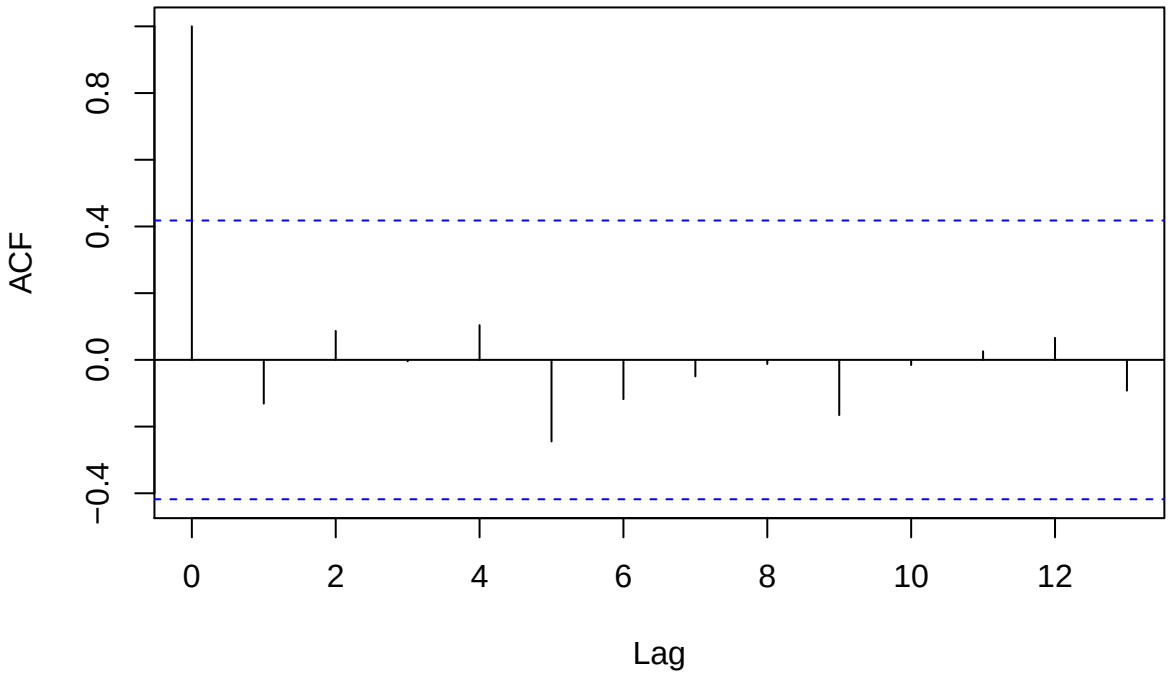
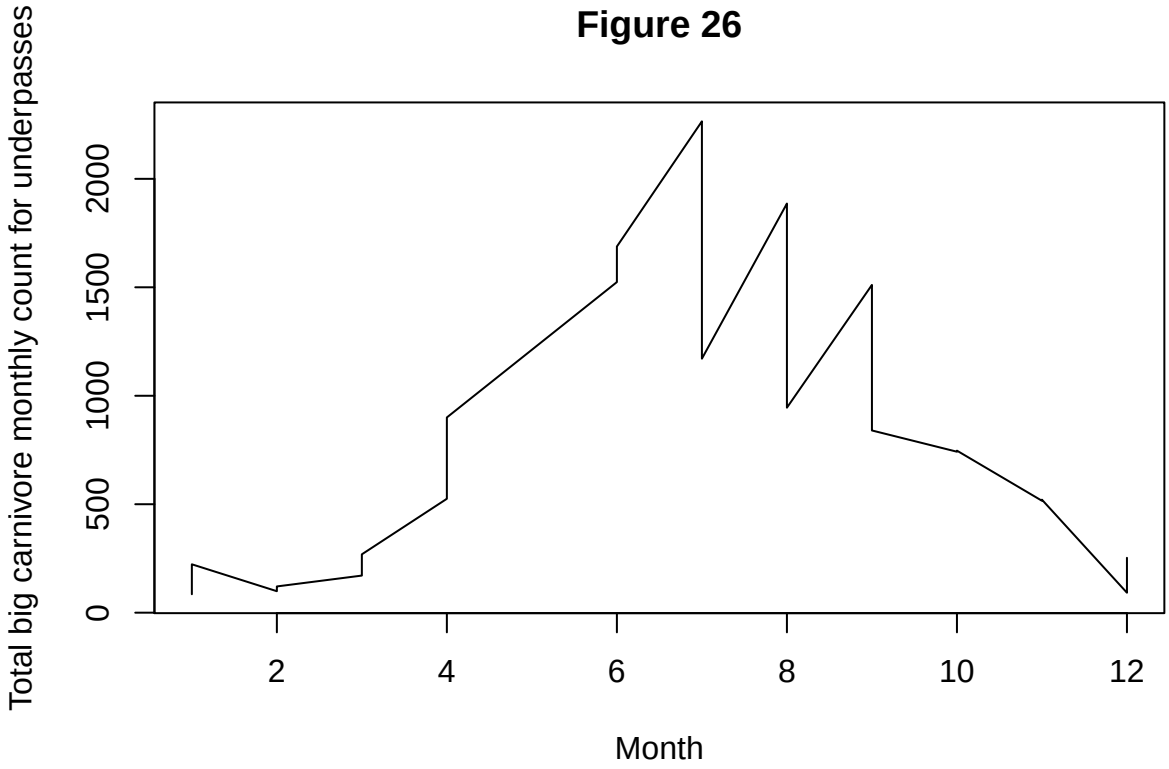


Figure 26




```
## [1] 419878.9
```

```
## [1] 777
```

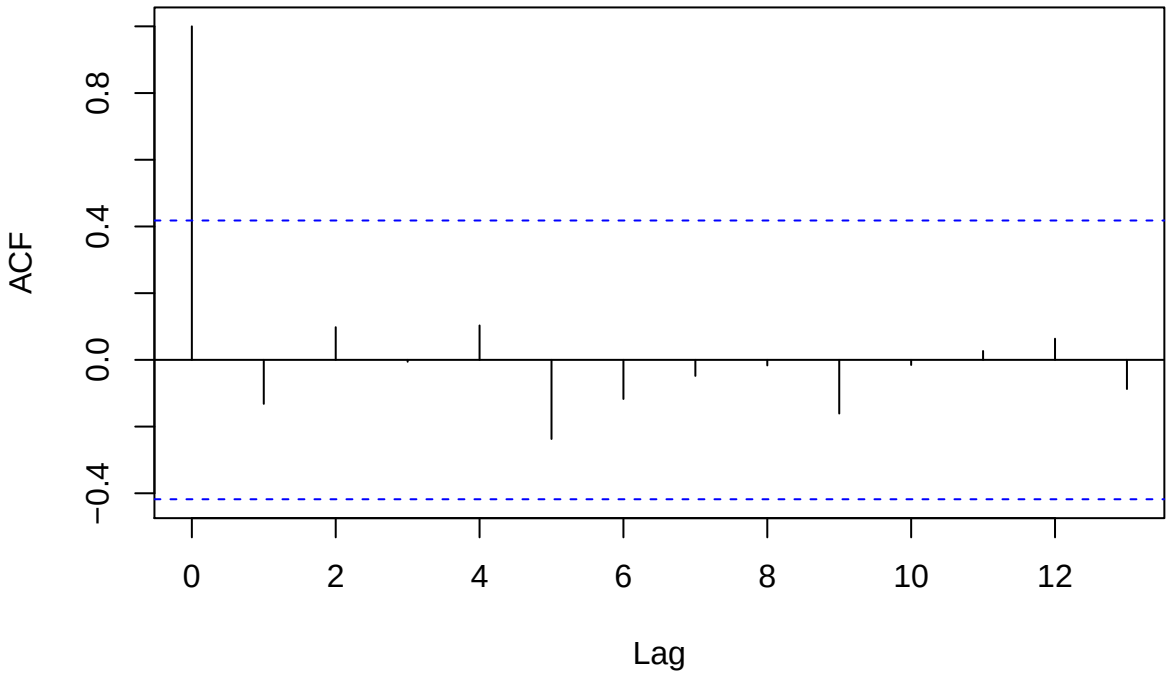
Monthly small carnivore count for underpasses

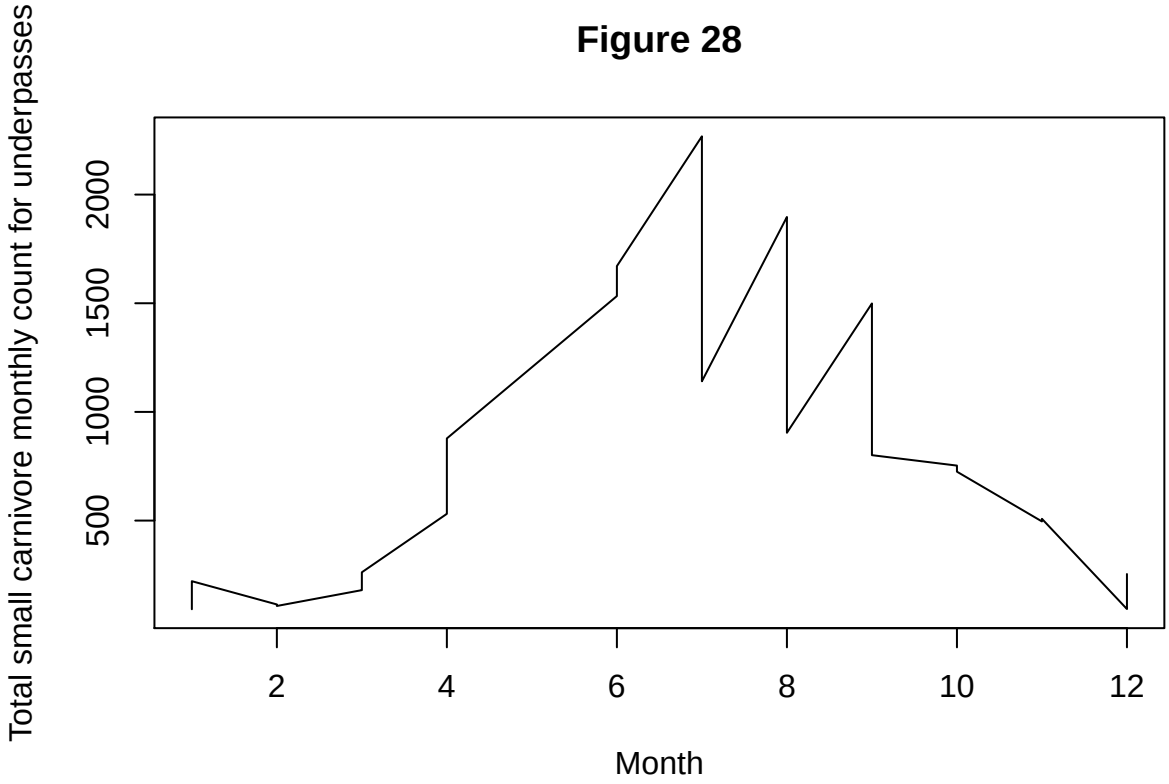
```
##
##  Durbin-Watson test
##
## data:  Smallcar.mon.count.under.mod
## DW = 2.2029, p-value = 0.6858
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.mon.count.under
## X-squared = 0.3824, df = 1, p-value = 0.5363
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.mon.count.under
## X-squared = 0.43703, df = 1, p-value = 0.5086
```

Figure 27:Total small carnivore monthly count for underpasses






```
## [1] 417745.4
```

```
## [1] 769.4545
```

Hourly big carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigcar.hou.count.jump.mod
## DW = 1.8696, p-value = 0.2607
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigcar.hou.count.jump
## X-squared = 0.34253, df = 1, p-value = 0.5584
```

```
##
##  Box-Ljung test
##
## data:  Bigcar.hou.count.jump
## X-squared = 0.35335, df = 1, p-value = 0.5522
```

Figure 29:Total big carnivore hourly count for jumpouts

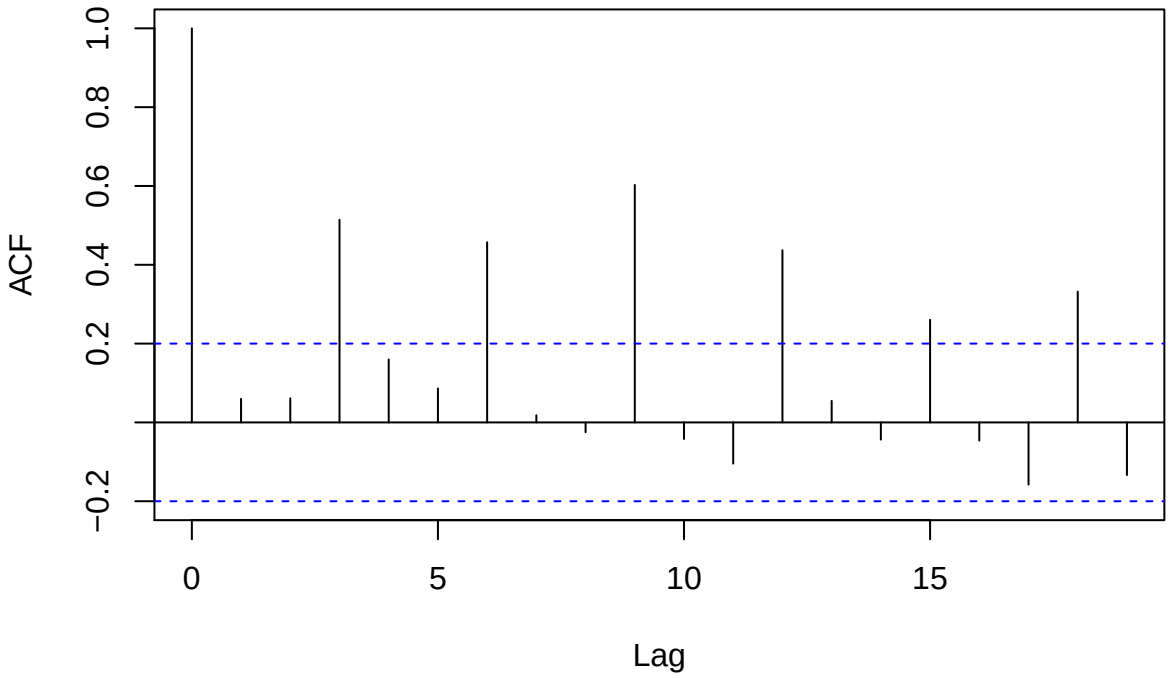
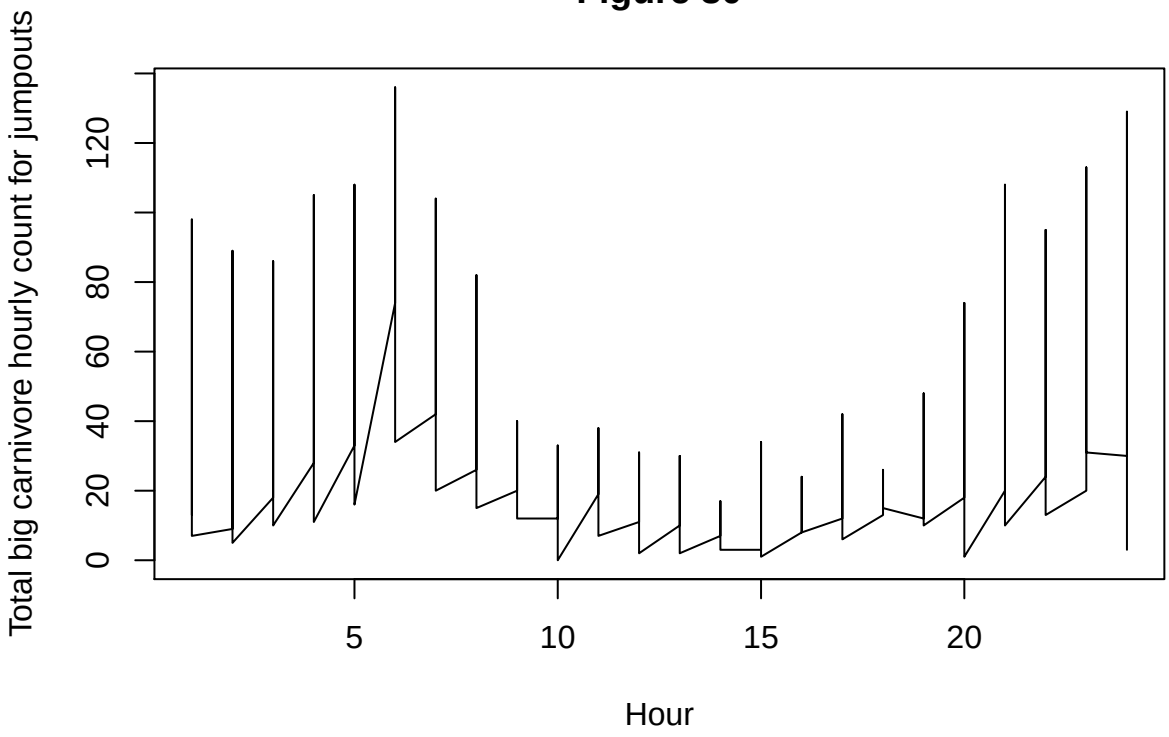


Figure 30




```
## [1] 1059.957
```

```
## [1] 34.46875
```

Hourly small carnivore count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Smallcar.hou.count.jump.mod
## DW = 1.7977, p-value = 0.1596
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.hou.count.jump
## X-squared = 0.89013, df = 1, p-value = 0.3454
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.hou.count.jump
## X-squared = 0.91824, df = 1, p-value = 0.3379
```

Figure 31:Total small carnivore hourly count for jumpouts

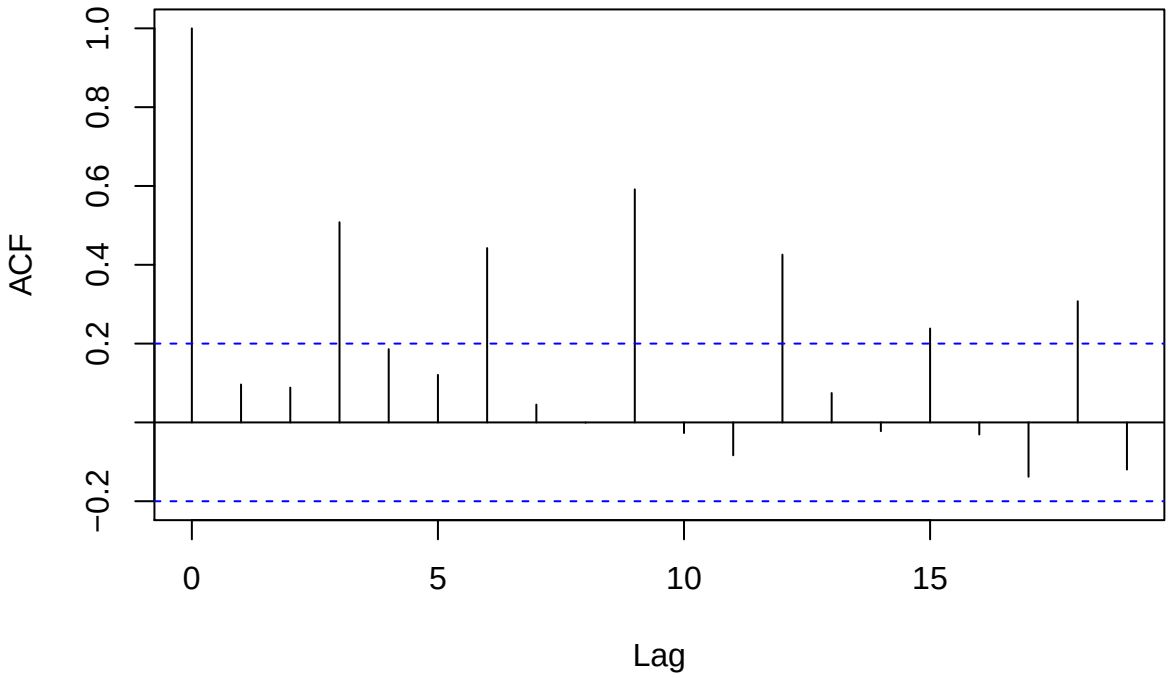
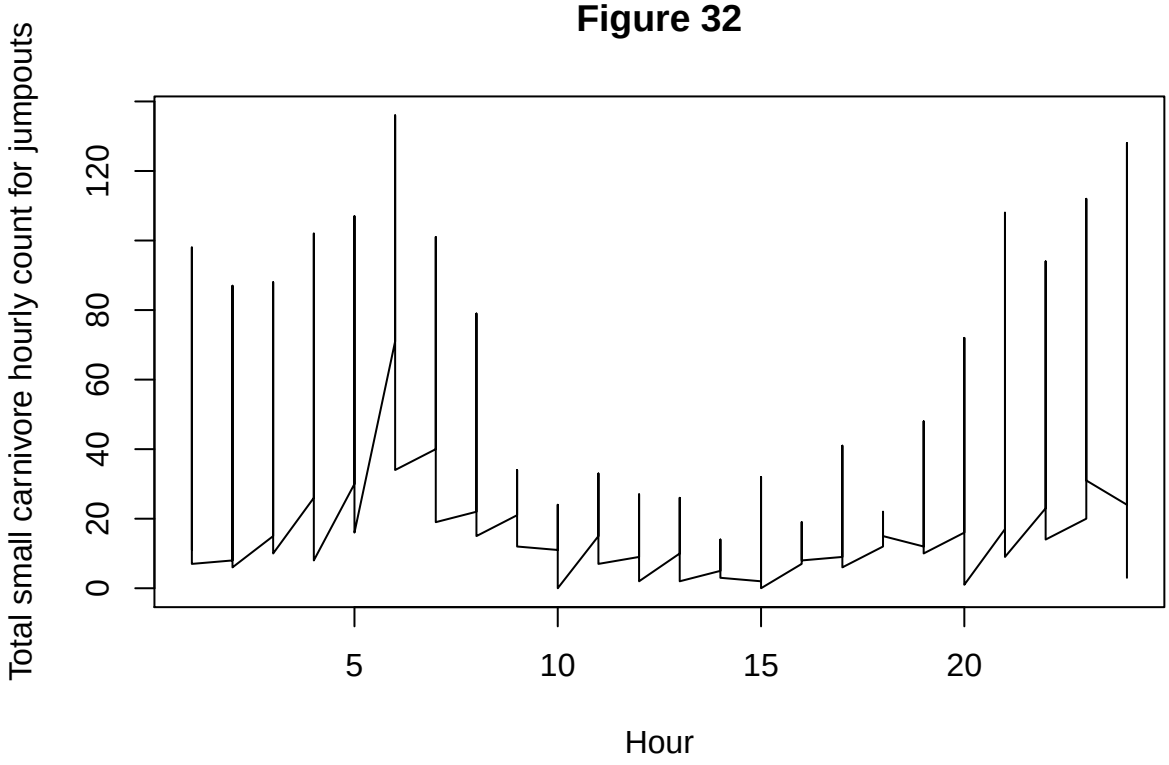


Figure 32




```
## [1] 1068.379
```

```
## [1] 32.64583
```

Hourly big carnivore count for underpasses

```
##
##  Durbin-Watson test
##
## data:  Bigcar.hou.count.under.mod
## DW = 1.6889, p-value = 0.1377
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigcar.hou.count.under
## X-squared = 0.8915, df = 1, p-value = 0.3451
```

```
##
##  Box-Ljung test
##
## data:  Bigcar.hou.count.under
## X-squared = 0.94841, df = 1, p-value = 0.3301
```

Figure 33:Total big carnivore hourly count for underpasses

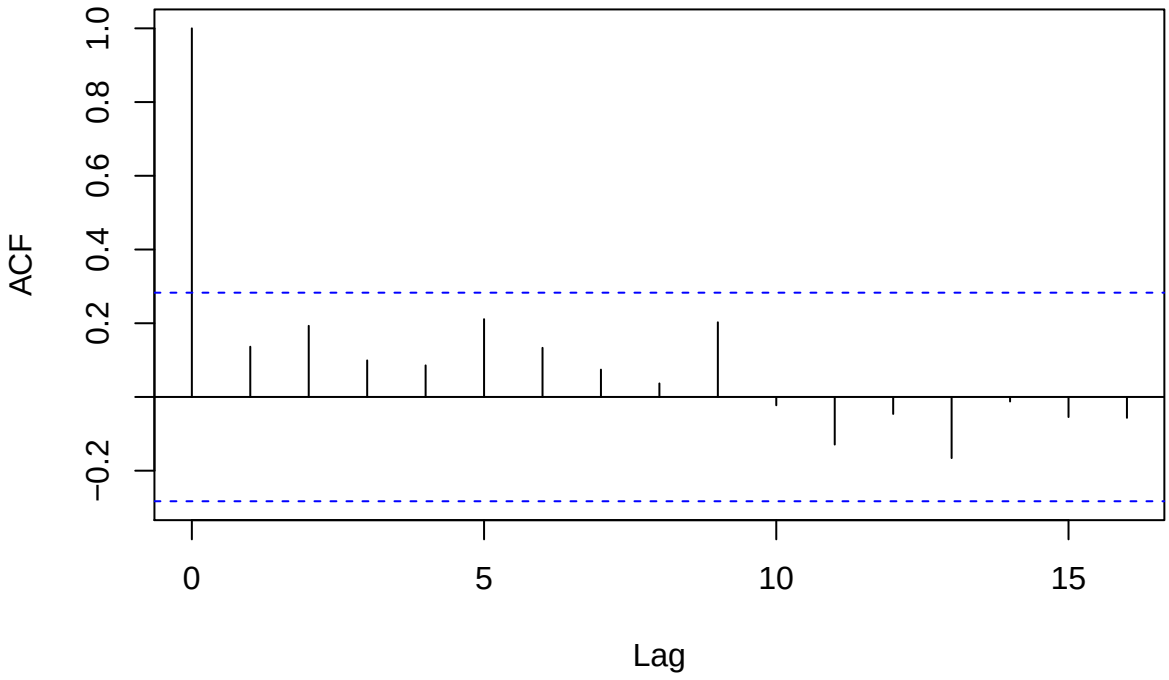
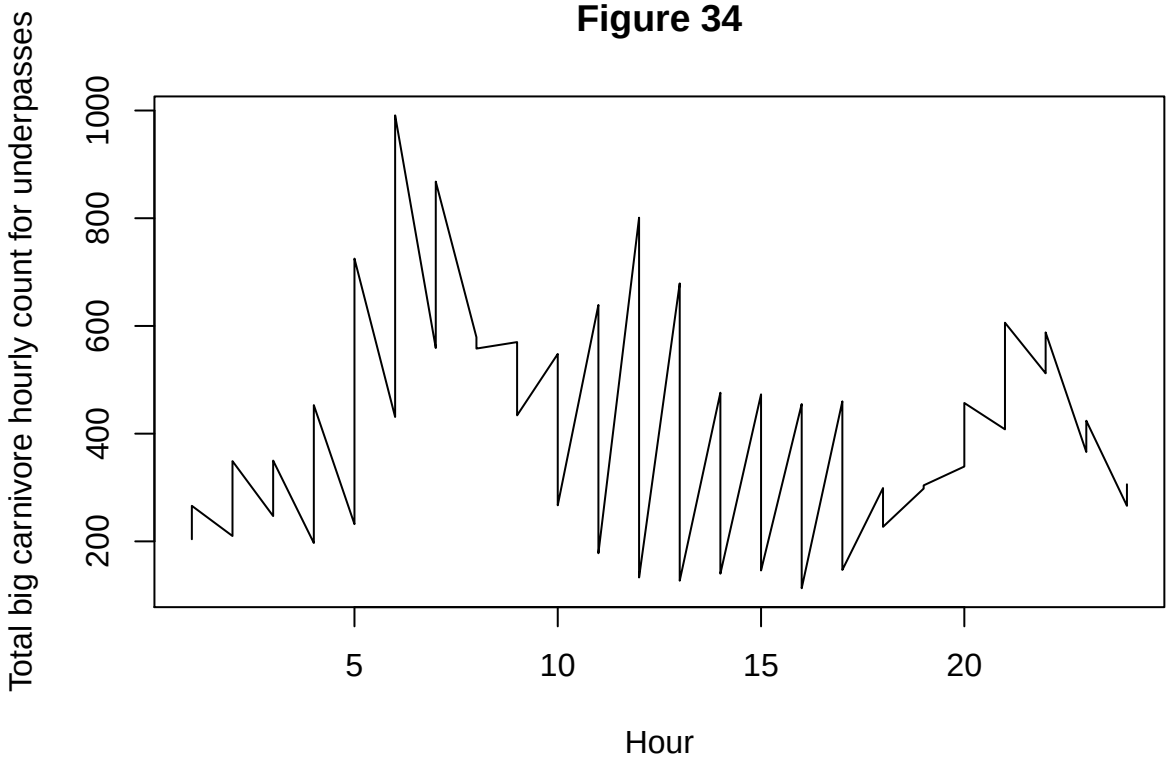


Figure 34




```
## [1] 42380.75
```

```
## [1] 404.2708
```

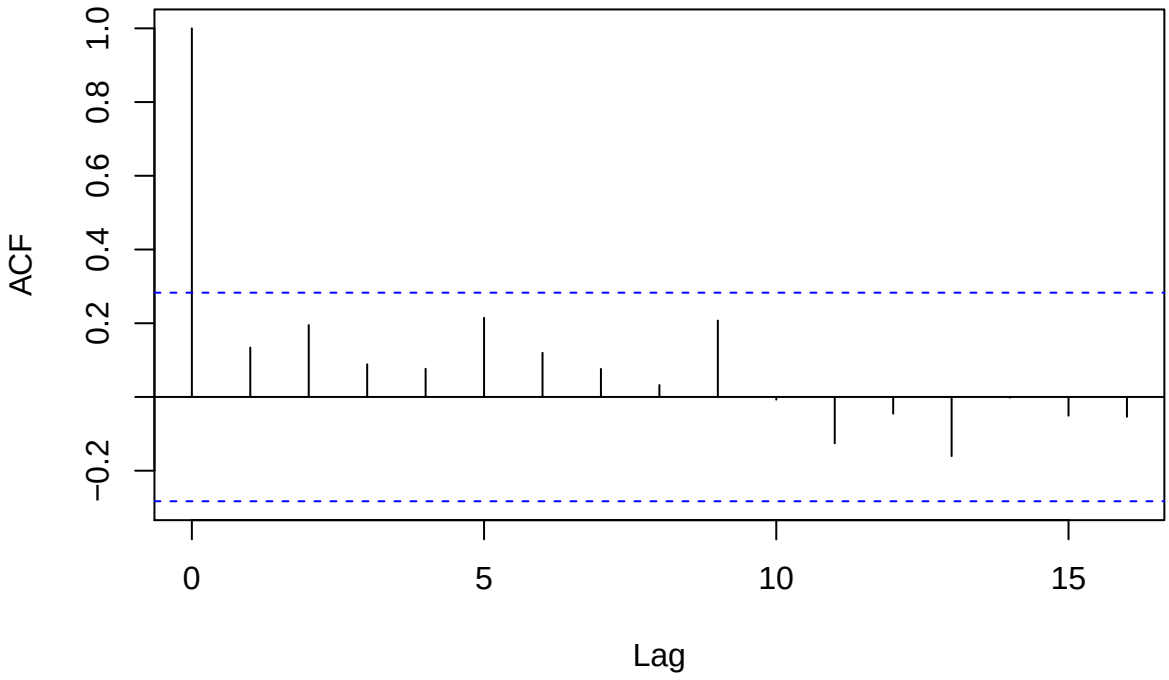
##Hourly small carnivore count for underpasses

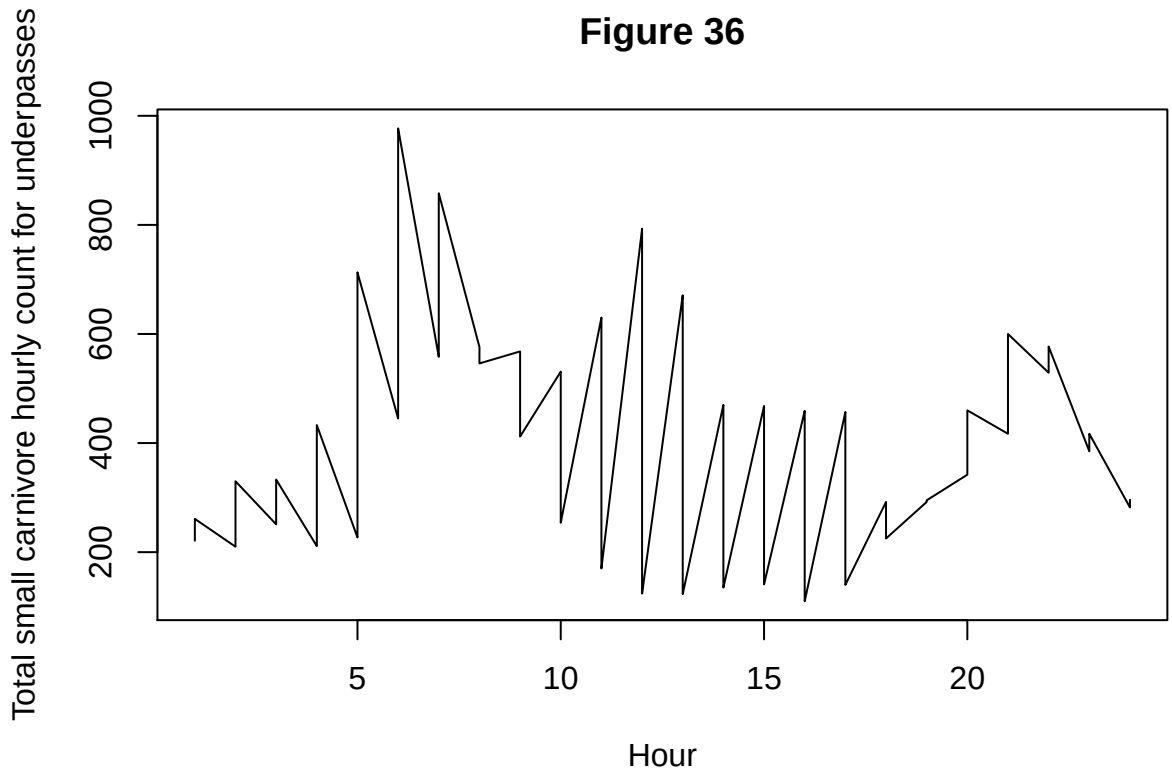
```
##
##  Durbin-Watson test
##
## data:  Smallcar.hou.count.under.mod
## DW = 1.6976, p-value = 0.1446
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallcar.hou.count.under
## X-squared = 0.86205, df = 1, p-value = 0.3532
```

```
##
##  Box-Ljung test
##
## data:  Smallcar.hou.count.under
## X-squared = 0.91708, df = 1, p-value = 0.3382
```

Figure 35:Total small carnivore hourly count for underpasses






```
## [1] 41486.9
```

```
## [1] 400.3125
```

Annual big ungulate count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigung.ann.count.jump.mod
## DW = 1.8833, p-value = 0.3601
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.ann.count.jump
## X-squared = 0.060206, df = 1, p-value = 0.8062
```

```
##
##  Box-Ljung test
##
## data:  Bigung.ann.count.jump
## X-squared = 0.065224, df = 1, p-value = 0.7984
```

Figure 37:Total small carnivore hourly count for jumpouts

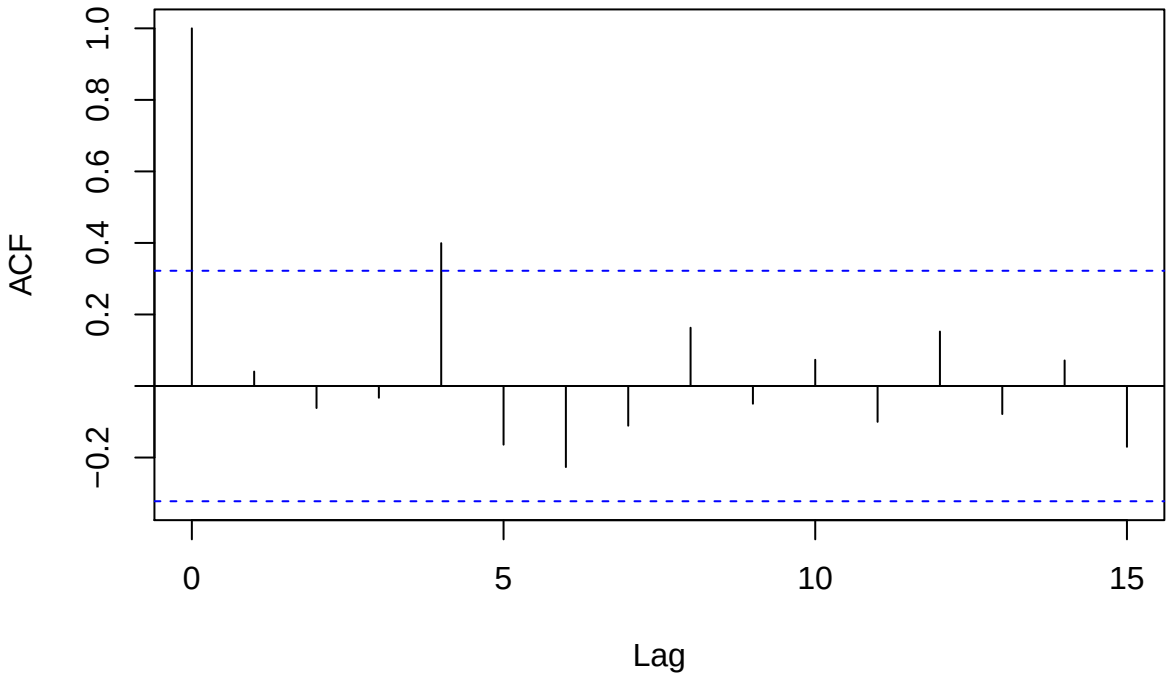
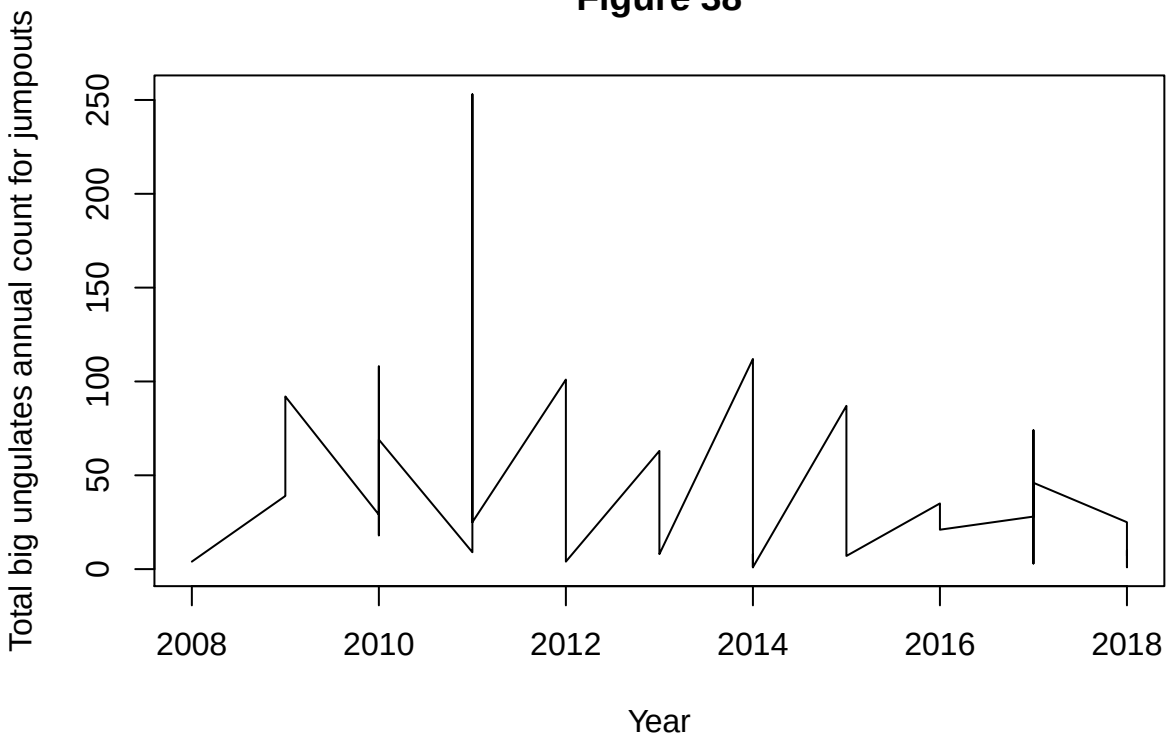


Figure 38




```
## [1] 2508.602
```

```
## [1] 42.81081
```

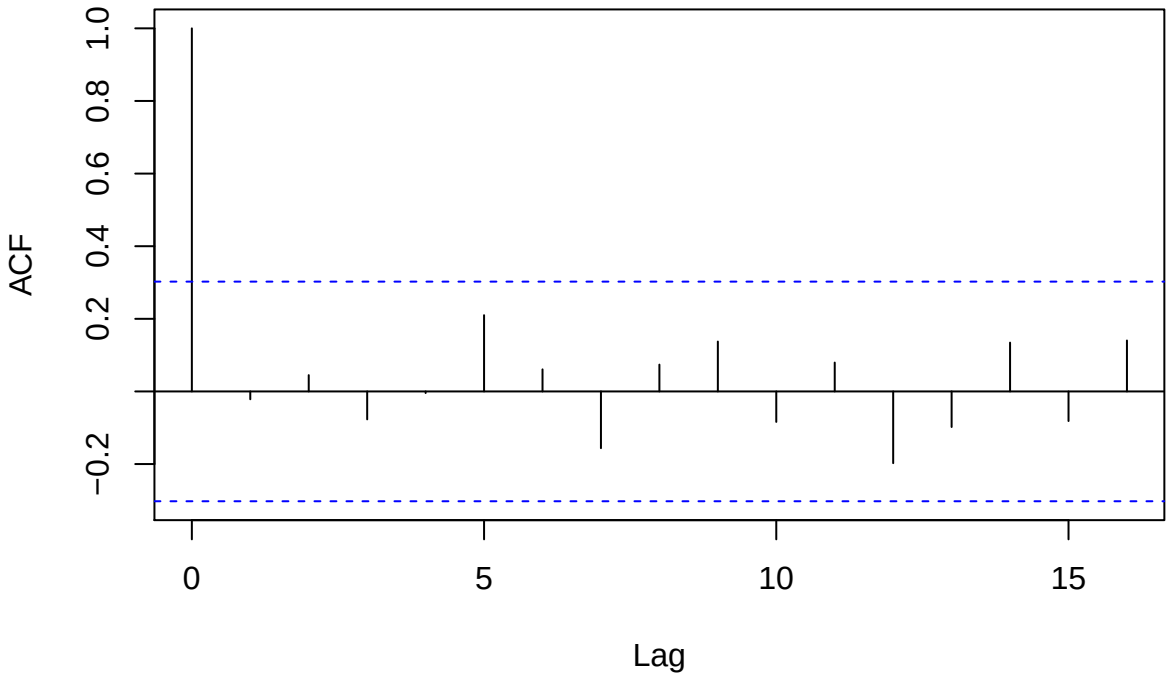
Annual small ungulate count for jumpouts

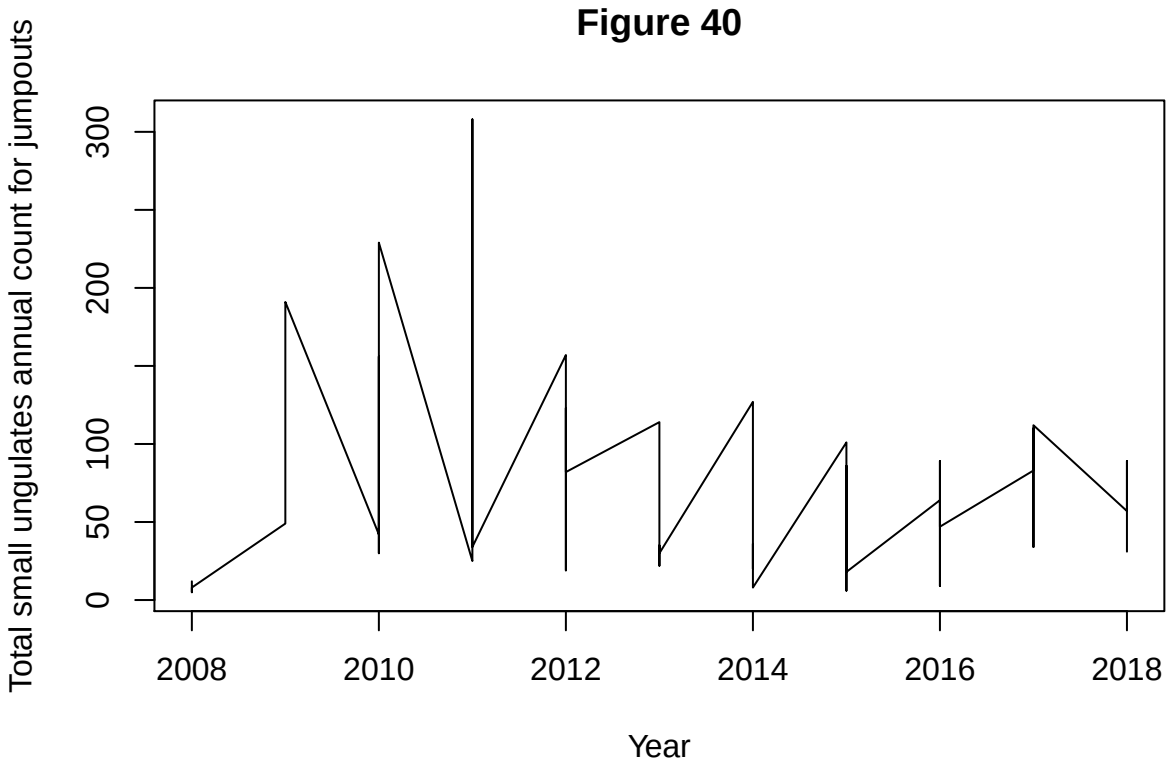
```
##
##  Durbin-Watson test
##
## data:  Smallung.ann.count.jump.mod
## DW = 1.9989, p-value = 0.4986
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.ann.count.jump
## X-squared = 0.019538, df = 1, p-value = 0.8888
```

```
##
##  Box-Ljung test
##
## data:  Smallung.ann.count.jump
## X-squared = 0.020967, df = 1, p-value = 0.8849
```

Figure 39:Total small ungulates annual count for jumpouts






```
## [1] 4607.9
```

```
## [1] 74.61905
```

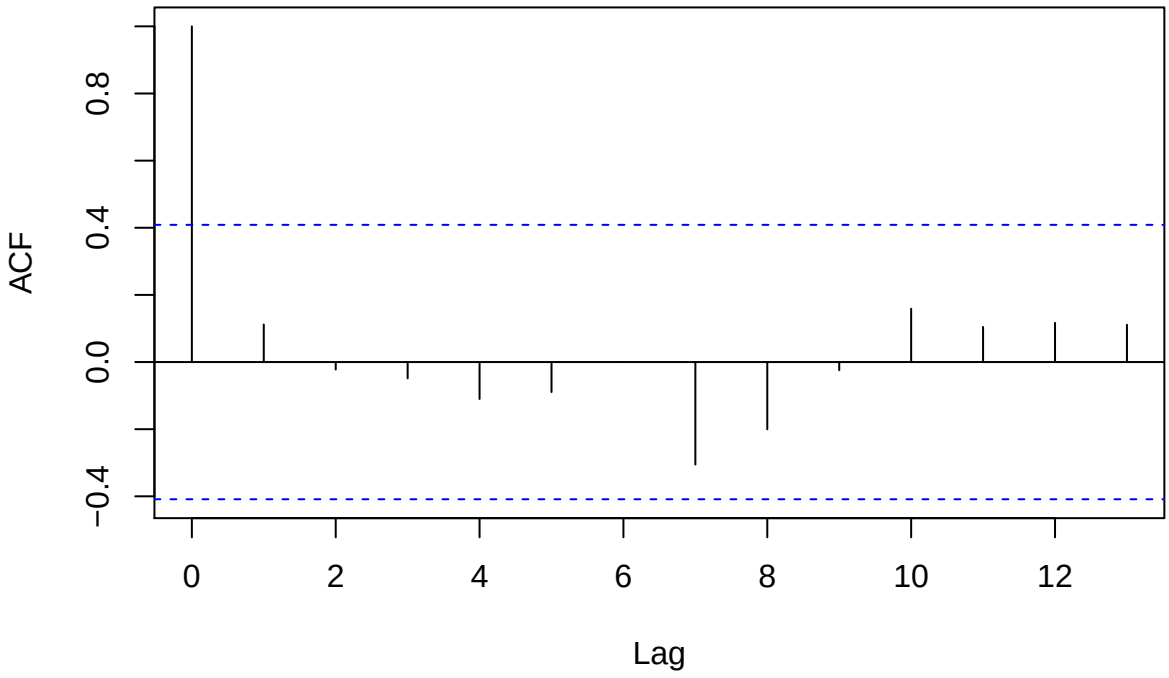
Annual big ungulate count for underpasses

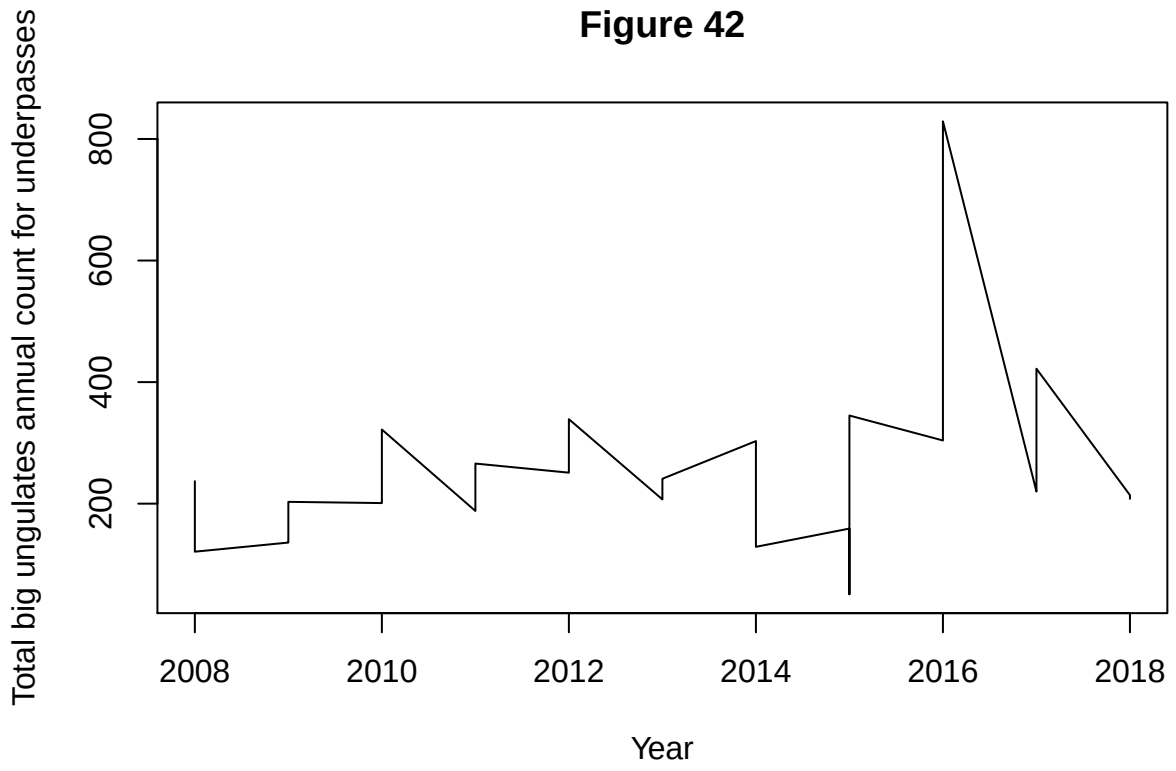
```
##
##  Durbin-Watson test
##
## data:  Bigung.ann.count.under.mod
## DW = 1.747, p-value = 0.2684
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.ann.count.under
## X-squared = 0.28797, df = 1, p-value = 0.5915
```

```
##
##  Box-Ljung test
##
## data:  Bigung.ann.count.under
## X-squared = 0.32724, df = 1, p-value = 0.5673
```

Figure 41:Total big ungulates annual count for underpasses






```
## [1] 22667.42
```

```
## [1] 256.3478
```

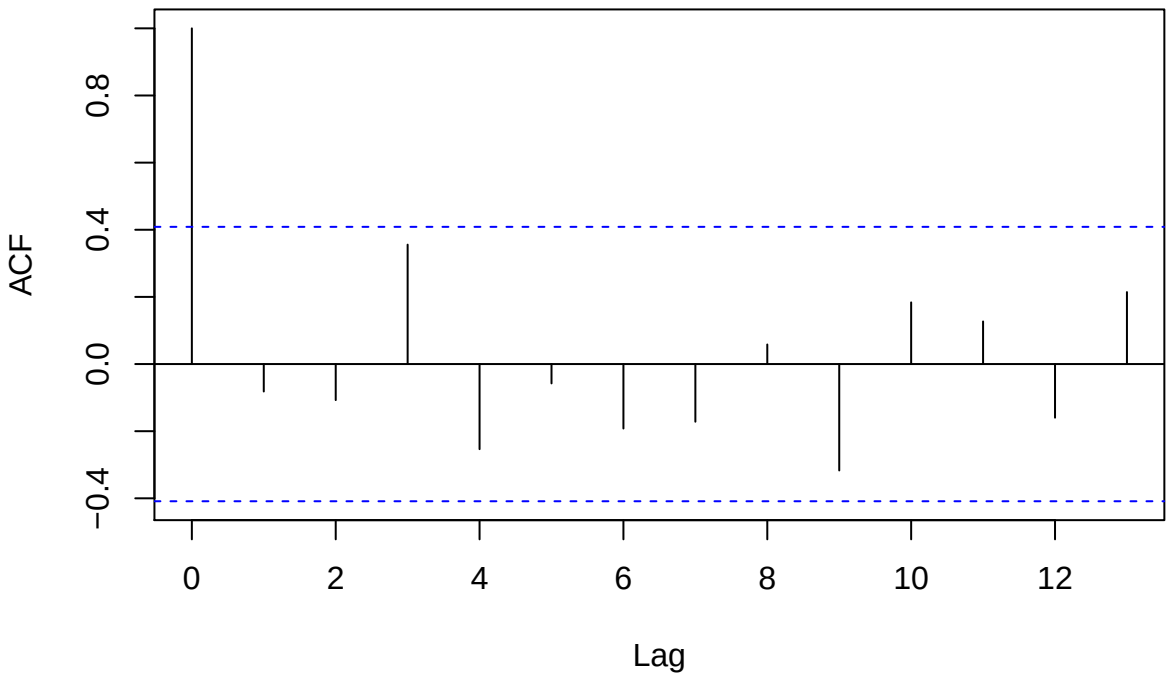
Annual small ungulate count for underpasses

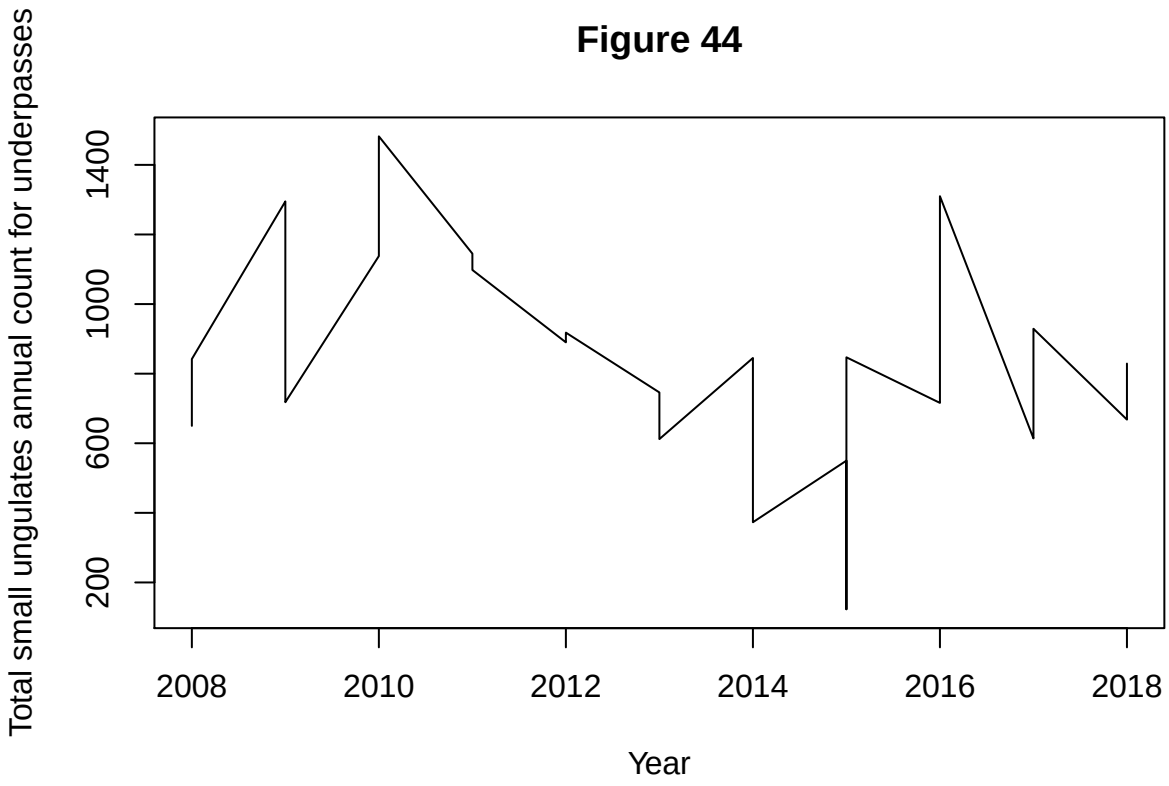
```
##
##  Durbin-Watson test
##
## data:  Smallung.ann.count.under.mod
## DW = 2.0357, p-value = 0.5346
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.ann.count.under
## X-squared = 0.15411, df = 1, p-value = 0.6946
```

```
##
##  Box-Ljung test
##
## data:  Smallung.ann.count.under
## X-squared = 0.17513, df = 1, p-value = 0.6756
```

Figure 43:Total small ungulates annual count for underpasses






```
## [1] 96785.91
```

```
## [1] 840.7826
```

Monthly big ungulate count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigung.mon.count.jump.mod
## DW = 2.2023, p-value = 0.7302
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.mon.count.jump
## X-squared = 0.37368, df = 1, p-value = 0.541
```

```
##
##  Box-Ljung test
##
## data:  Bigung.mon.count.jump
## X-squared = 0.40571, df = 1, p-value = 0.5242
```

Figure 45:Total big ungulates monthly count for jumpouts

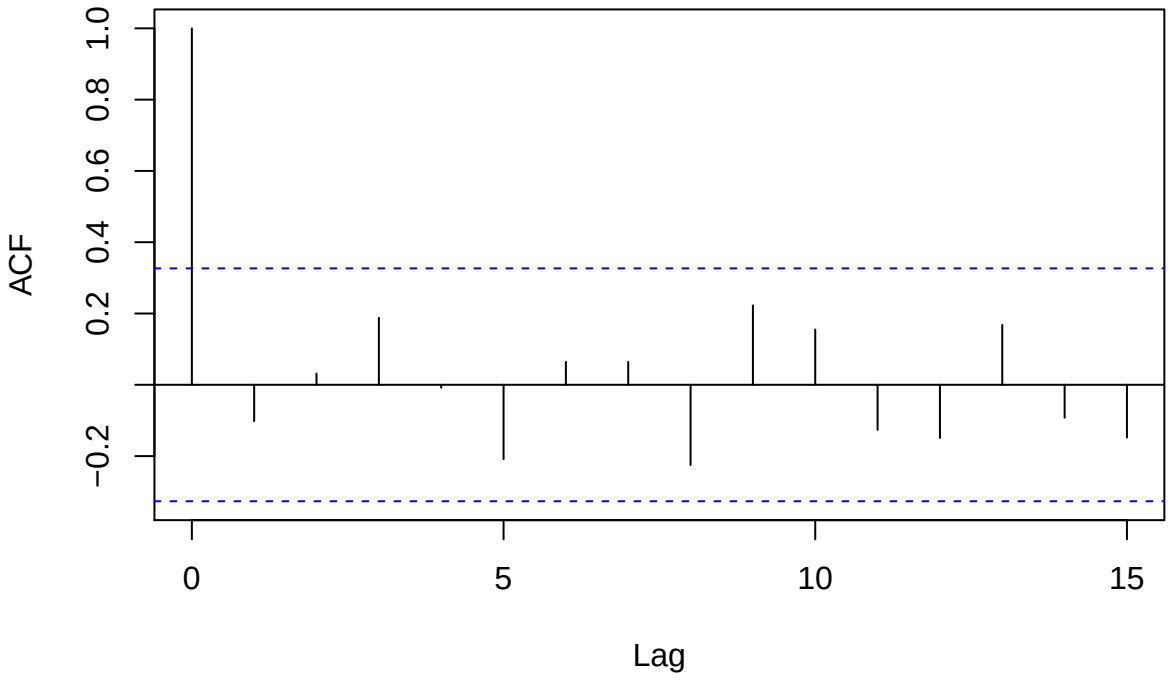
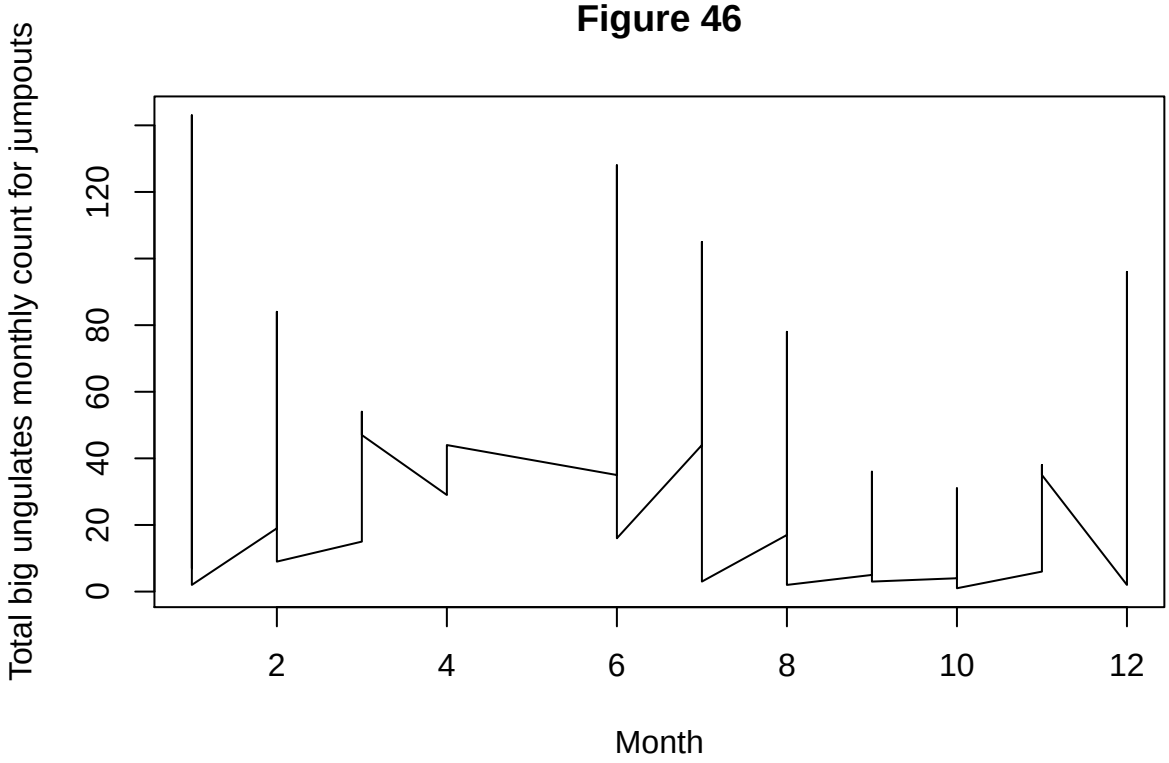


Figure 46




```
## [1] 1440.752
```

```
## [1] 35.36111
```

Monthly small ungulate count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Smallung.mon.count.jump.mod
## DW = 1.776, p-value = 0.2266
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.mon.count.jump
## X-squared = 0.42588, df = 1, p-value = 0.514
```

```
##
##  Box-Ljung test
##
## data:  Smallung.mon.count.jump
## X-squared = 0.45559, df = 1, p-value = 0.4997
```

Figure 47:Total small ungulates monthly count for jumpouts

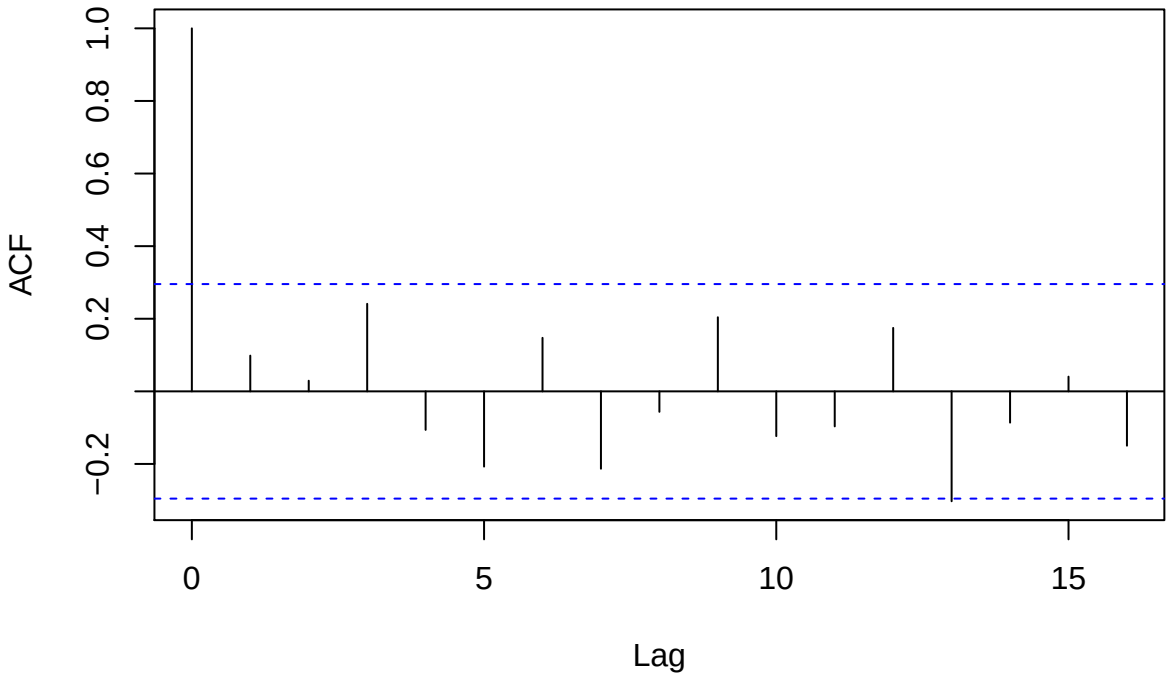
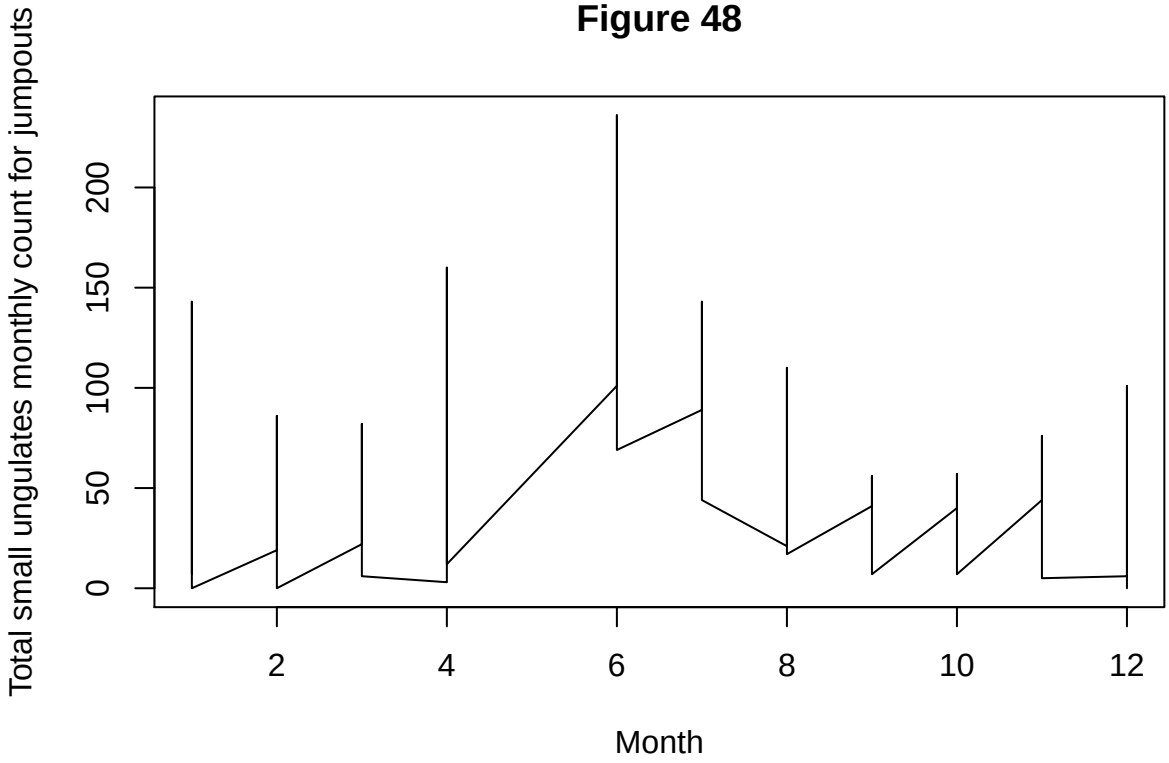


Figure 48




```
## [1] 3114.183
```

```
## [1] 54.84091
```

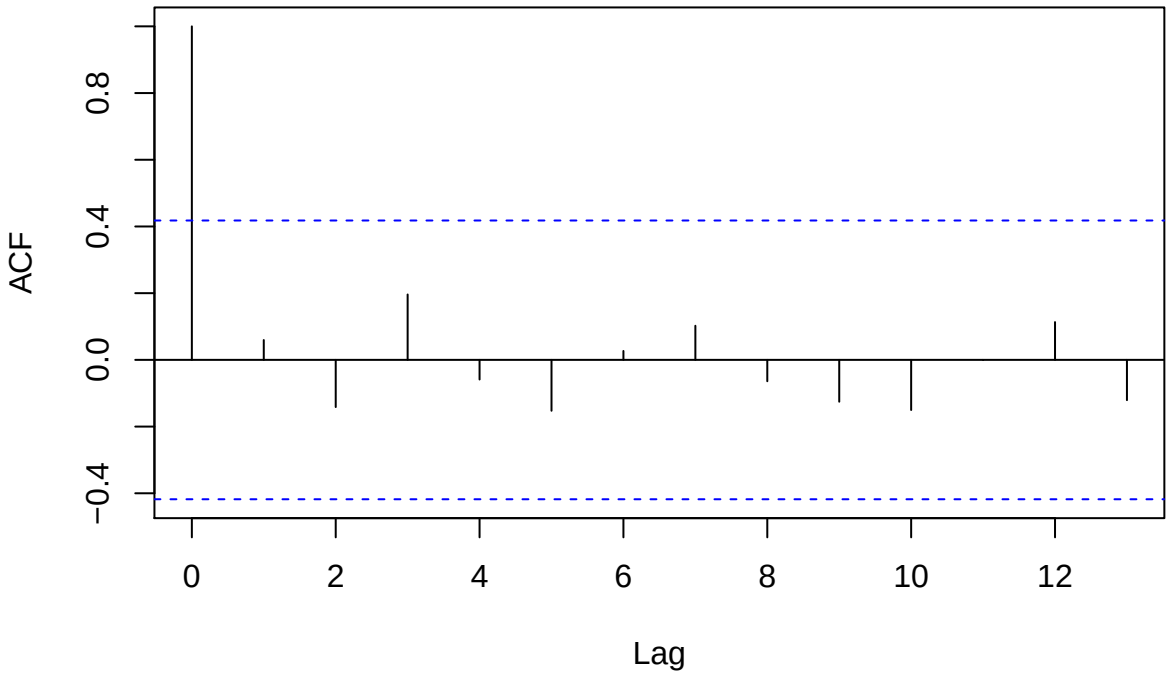
Monthly big ungulate count for underpasses

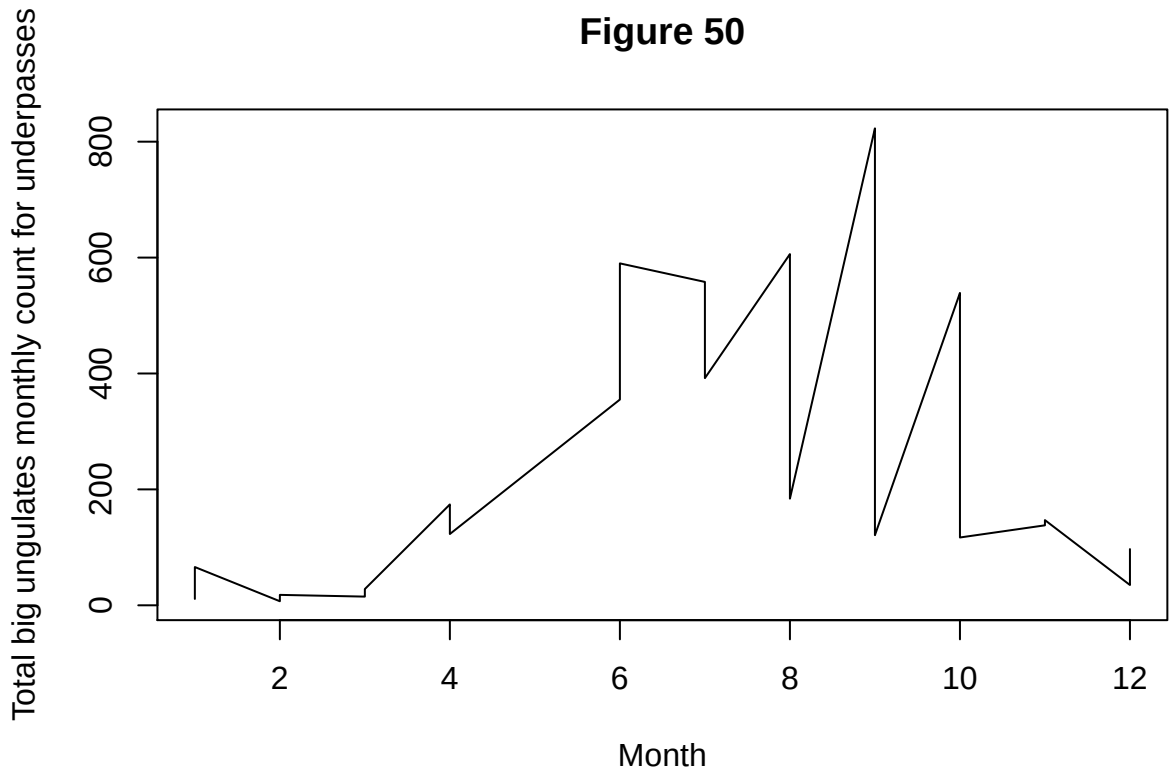
```
##
##  Durbin-Watson test
##
## data:  Bigung.mon.count.under.mod
## DW = 1.5899, p-value = 0.162
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.mon.count.under
## X-squared = 0.077875, df = 1, p-value = 0.7802
```

```
##
##  Box-Ljung test
##
## data:  Bigung.mon.count.under
## X-squared = 0.089, df = 1, p-value = 0.7655
```

Figure 49:Total big ungulates monthly count for underpasses






```
## [1] 58867.39
```

```
## [1] 233.8182
```

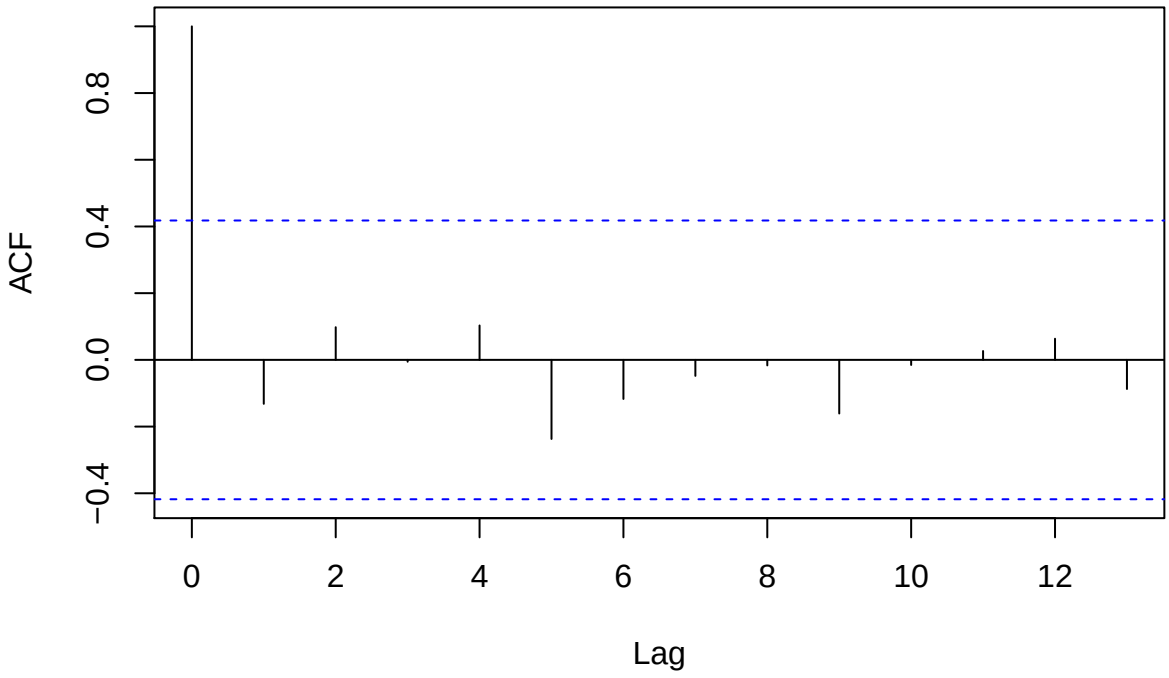
Monthly small ungulate count for underpasses

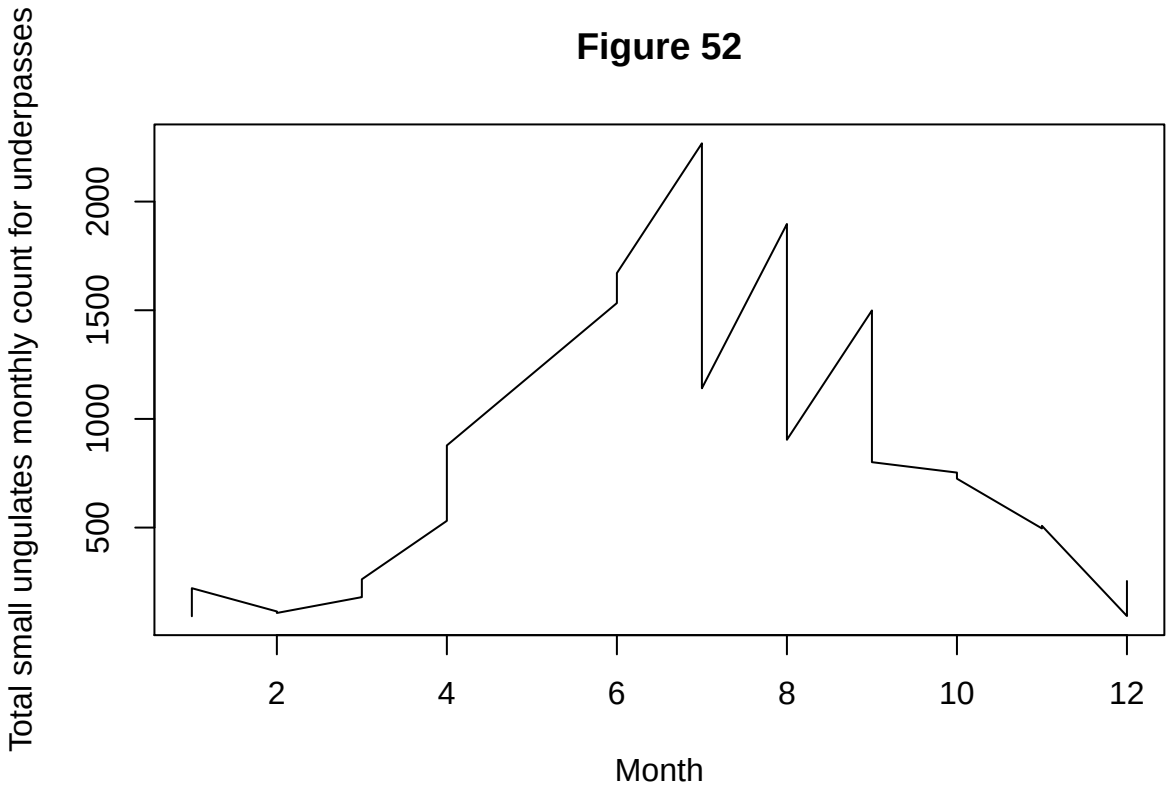
```
##
##  Durbin-Watson test
##
## data:  Smallung.mon.count.under.mod
## DW = 2.2029, p-value = 0.6858
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.mon.count.under
## X-squared = 0.3824, df = 1, p-value = 0.5363
```

```
##
##  Box-Ljung test
##
## data:  Smallung.mon.count.under
## X-squared = 0.43703, df = 1, p-value = 0.5086
```

Figure 51:Total small ungulates monthly count for underpasses






```
## [1] 417745.4
```

```
## [1] 769.4545
```

Hourly big ungulate count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Bigung.hou.count.jump.mod
## DW = 1.9618, p-value = 0.4299
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.hou.count.jump
## X-squared = 0.027896, df = 1, p-value = 0.8674
```

```
##
##  Box-Ljung test
##
## data:  Bigung.hou.count.jump
## X-squared = 0.028893, df = 1, p-value = 0.865
```

Figure 53:Total big ungulates hourly count for jumpouts

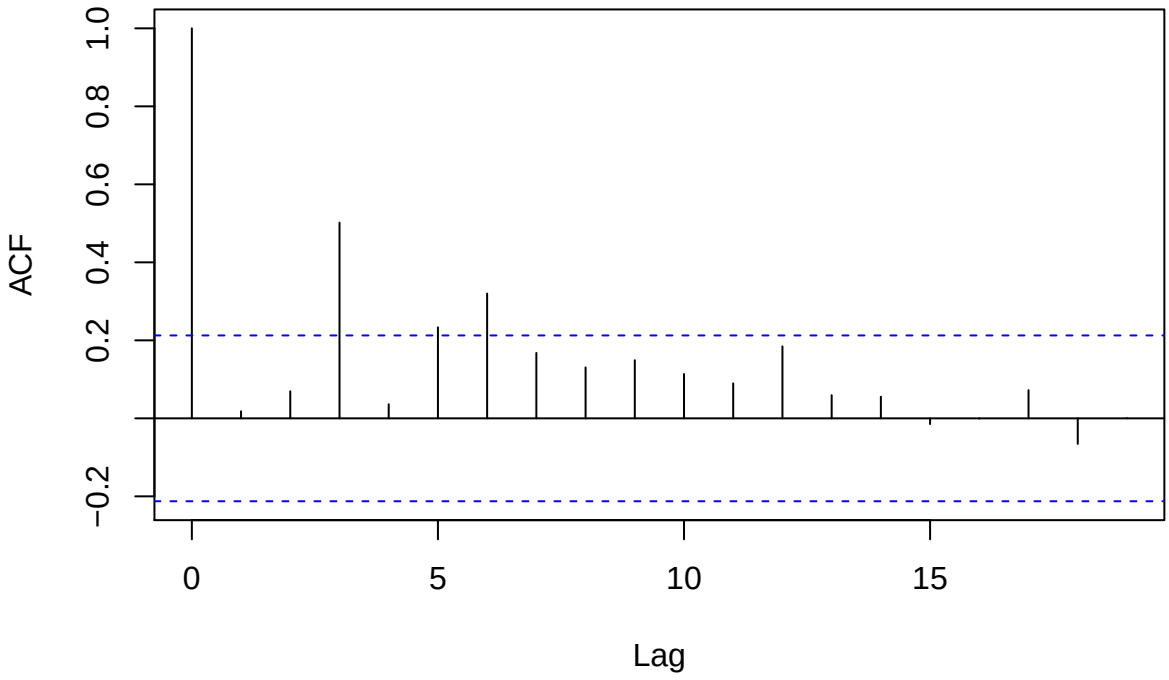
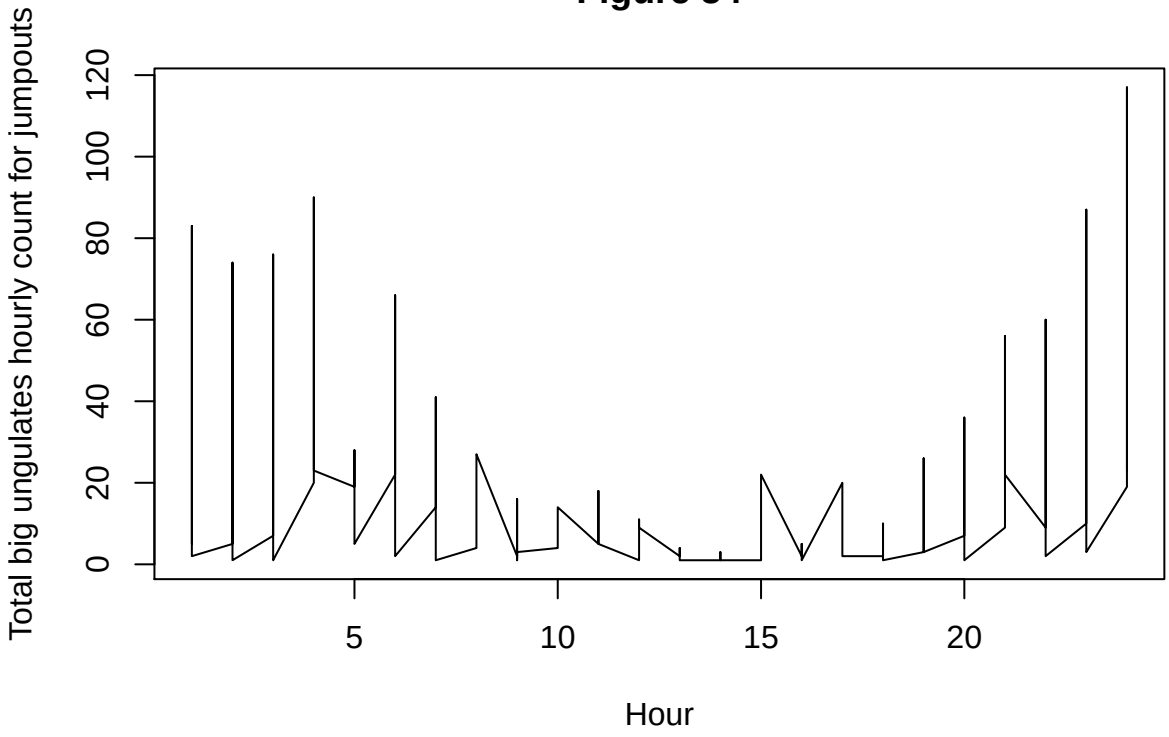


Figure 54




```
## [1] 577.5202
```

```
## [1] 18.63529
```

Hourly small ungulate count for jumpouts

```
##
##  Durbin-Watson test
##
## data:  Smallung.hou.count.jump.mod
## DW = 1.7977, p-value = 0.1596
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.hou.count.jump
## X-squared = 0.89013, df = 1, p-value = 0.3454
```

```
##
##  Box-Ljung test
##
## data:  Smallung.hou.count.jump
## X-squared = 0.91824, df = 1, p-value = 0.3379
```

Figure 55:Total small ungulates hourly count for jumpouts

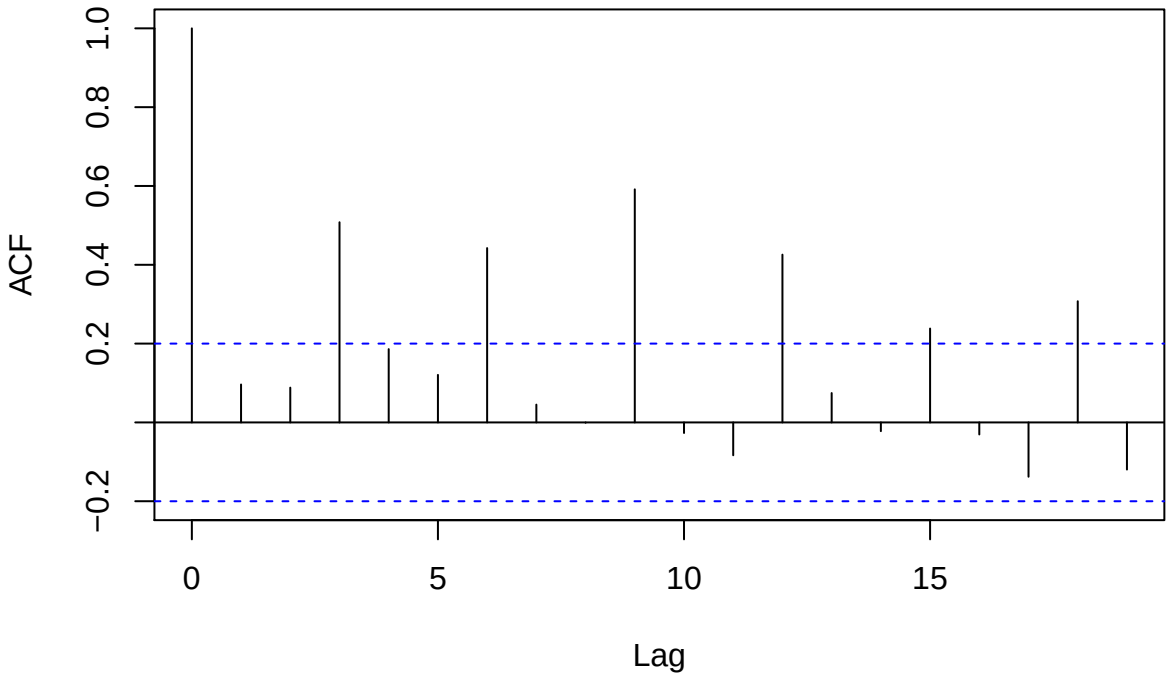
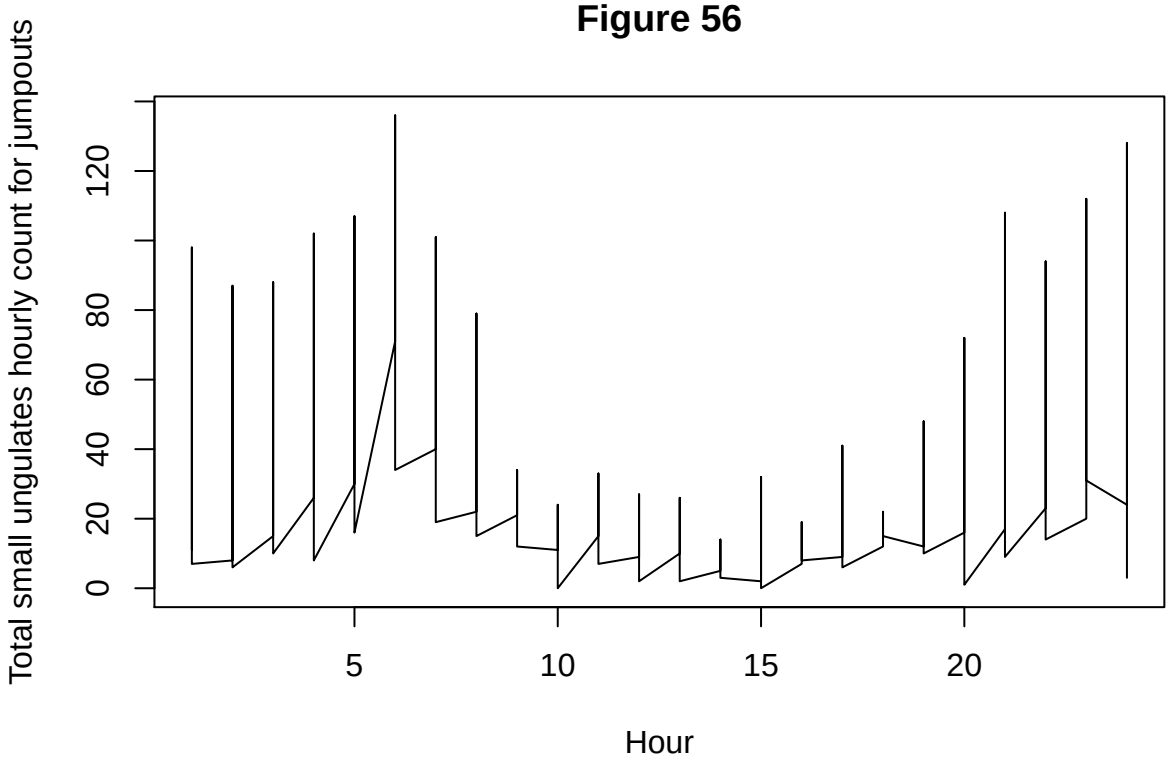


Figure 56




```
## [1] 1068.379
```

```
## [1] 32.64583
```

Hourly big ungulate count for underpasses

```
##
##  Durbin-Watson test
##
## data:  Bigung.hou.count.under.mod
## DW = 0.97956, p-value = 6.466e-05
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Bigung.hou.count.under
## X-squared = 12.339, df = 1, p-value = 0.0004437
```

```
##
##  Box-Ljung test
##
## data:  Bigung.hou.count.under
## X-squared = 13.126, df = 1, p-value = 0.0002912
```

Figure 57:Total big ungulates hourly count for underpasses

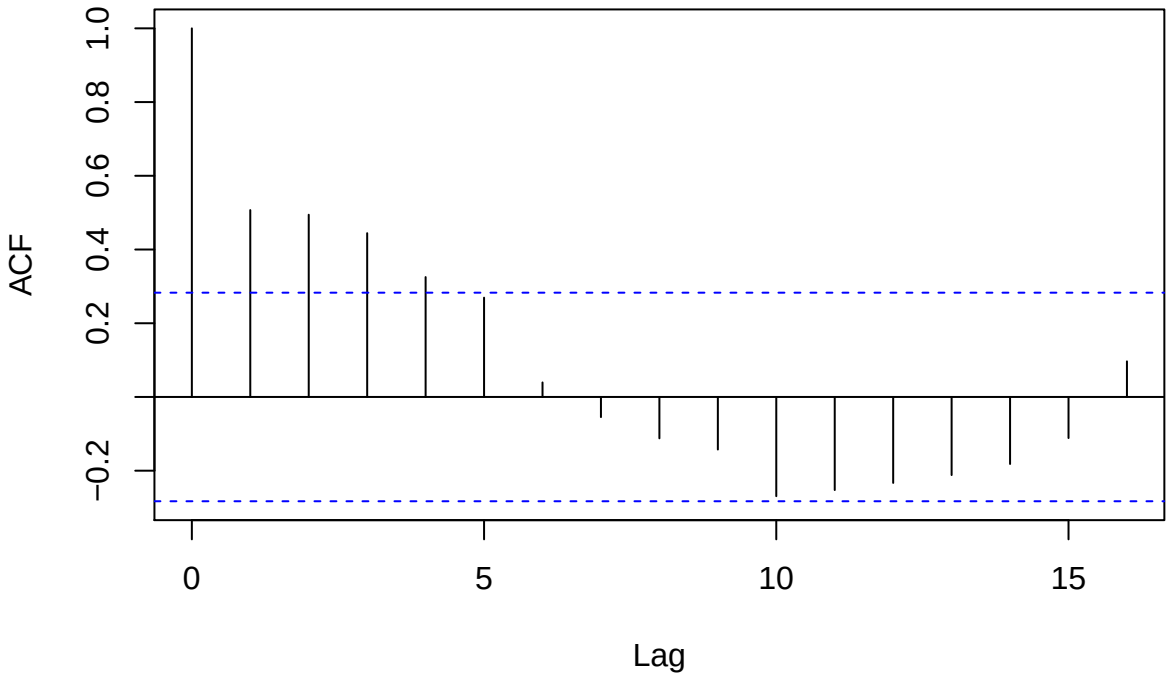
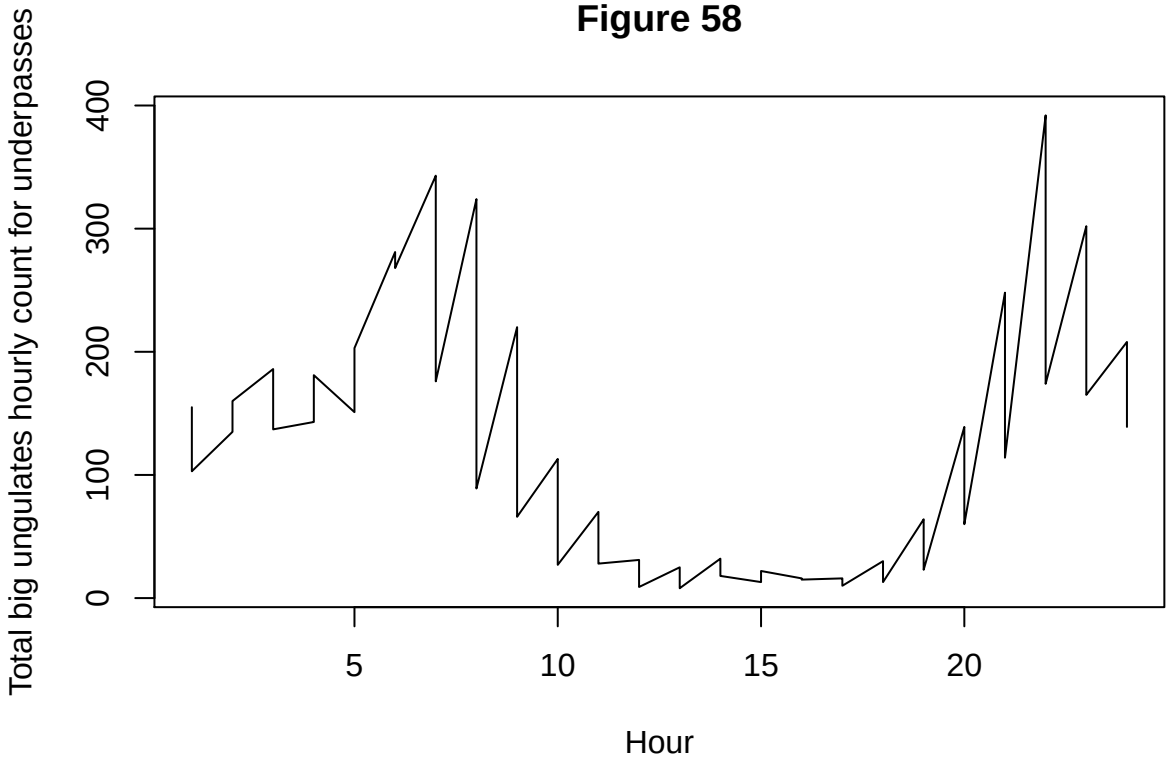


Figure 58




```
## [1] 10514.39
```

```
## [1] 121.7708
```

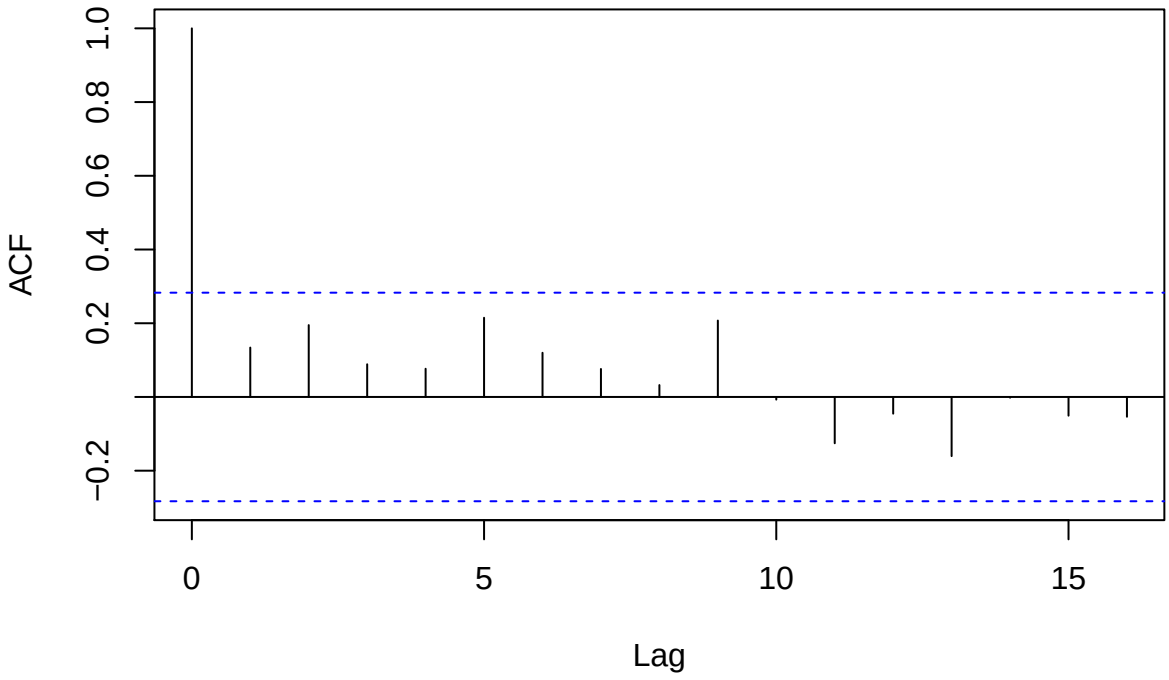
Hourly small ungulate count for underpasses

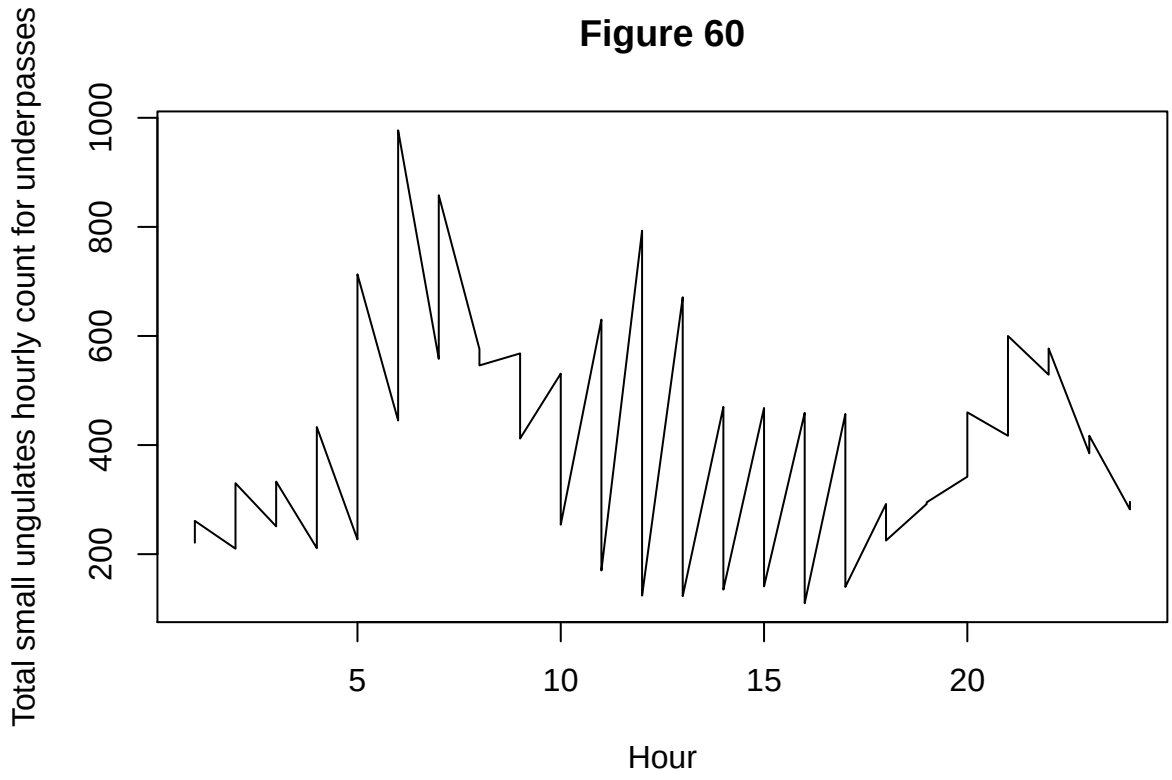
```
##
##  Durbin-Watson test
##
## data:  Smallung.hou.count.under.mod
## DW = 1.6976, p-value = 0.1446
## alternative hypothesis: true autocorrelation is greater than 0
```

```
##
##  Box-Pierce test
##
## data:  Smallung.hou.count.under
## X-squared = 0.86205, df = 1, p-value = 0.3532
```

```
##
##  Box-Ljung test
##
## data:  Smallung.hou.count.under
## X-squared = 0.91708, df = 1, p-value = 0.3382
```

Figure 59:Total small ungulates hourly count for underpasses





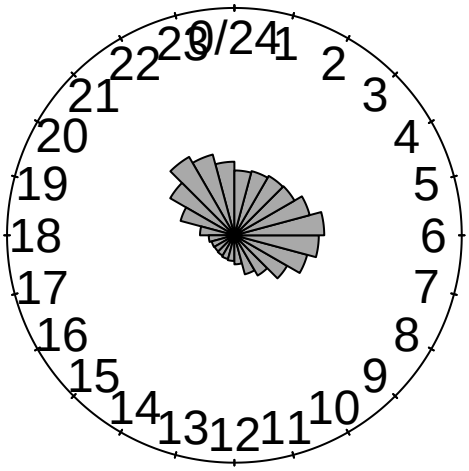

```
## [1] 41486.9
```

```
## [1] 400.3125
```

Look at whether there is circularity in the dataset

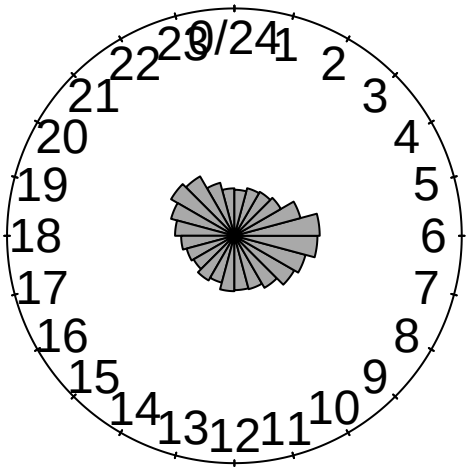
Ungulate and carnivore hours of activity

Figure 61



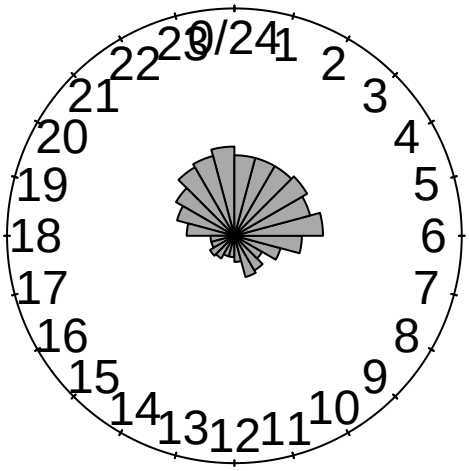
Big ungulate hour frequency underpasses

Figure 62



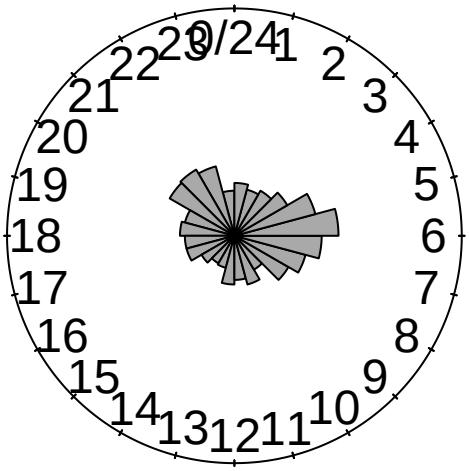
Small ungulate hour frequency underpasses

Figure 63



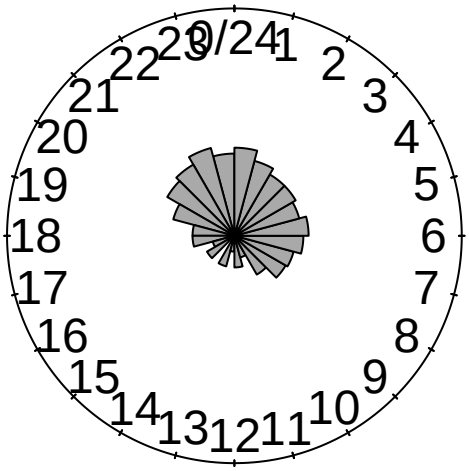
Big ungulate hour frequency jumpouts

Figure 64



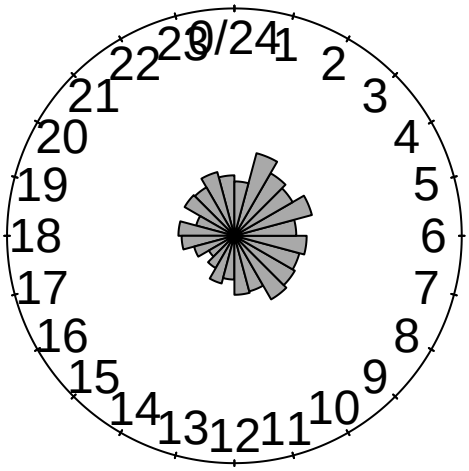
Small ungulate hour frequency jumpouts

Figure 65



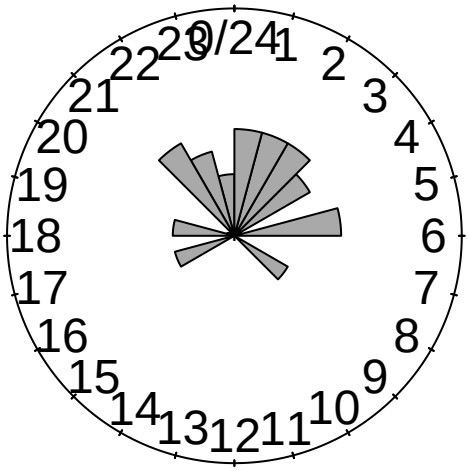
Big carnivore hour frequency underpasses

Figure 66



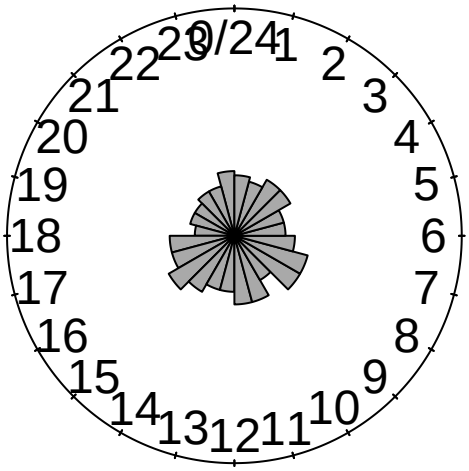
Small carnivore hour frequency underpasses

Figure 67



Big carnivore hour frequency jumpouts

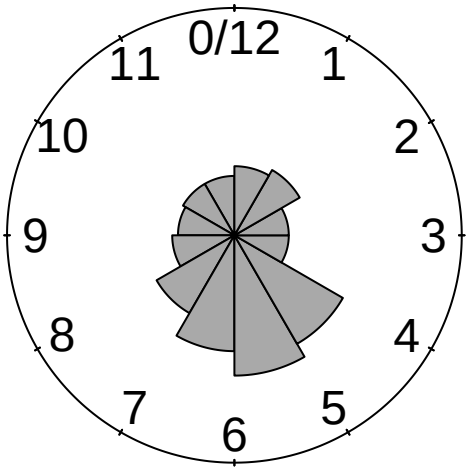
Figure 68



Small carnivore hour frequency jumpouts

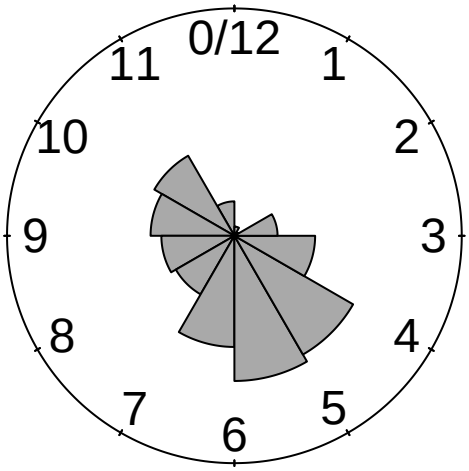
Ungulate and carnivore months of activity

Figure 69



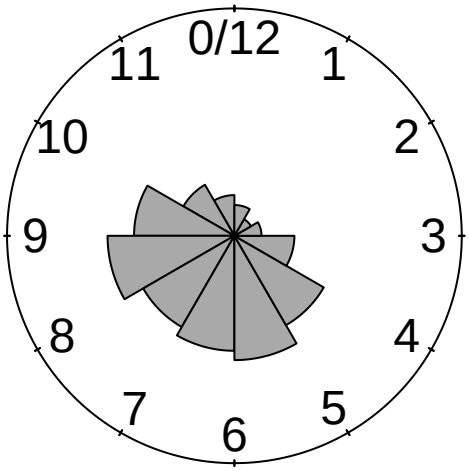
Big ungulate month frequency jumpouts

Figure 70



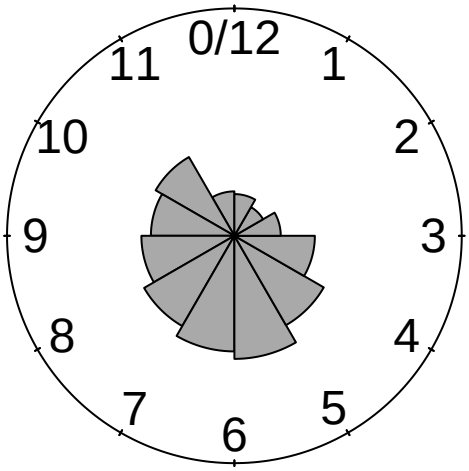
Small ungulate month frequency jumpouts

Figure 71



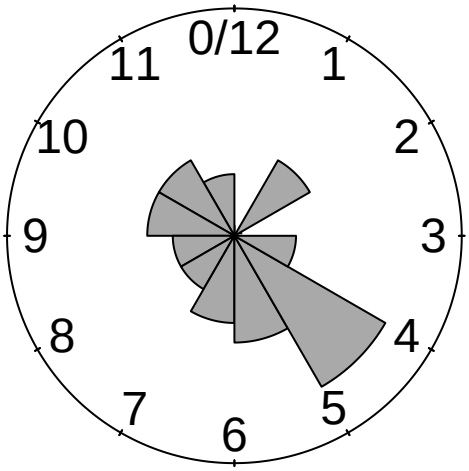
Big ungulates month frequency underpasses

Figure 72



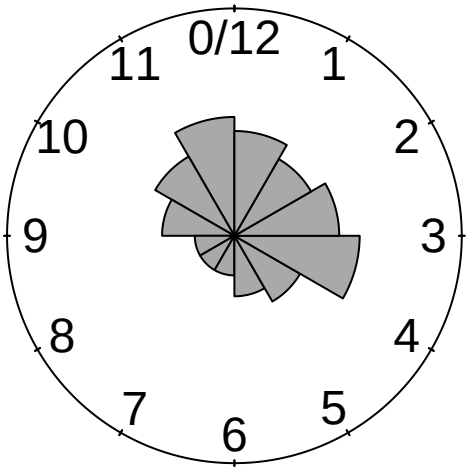
Small ungulates month frequency underpasses

Figure 73



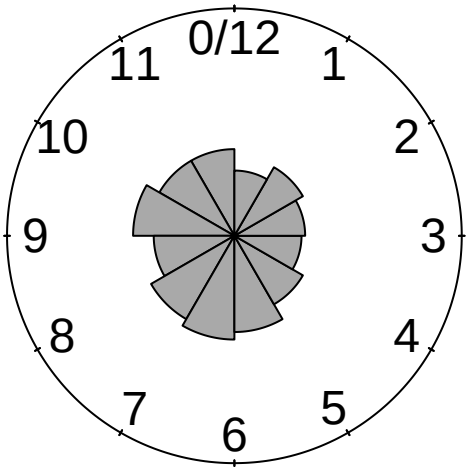
Big carnivore month frequency jumpouts

Figure 74



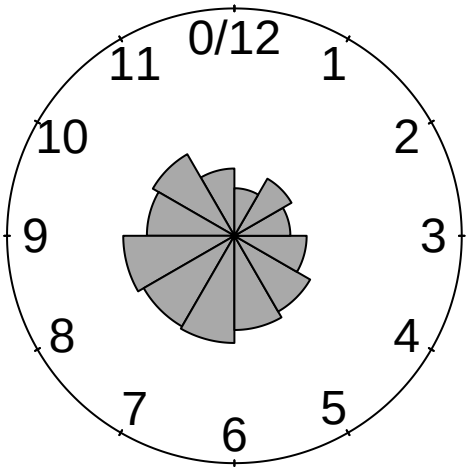
Small carnivore month frequency jumpouts

Figure 75



Big carnivore month frequency underpasses

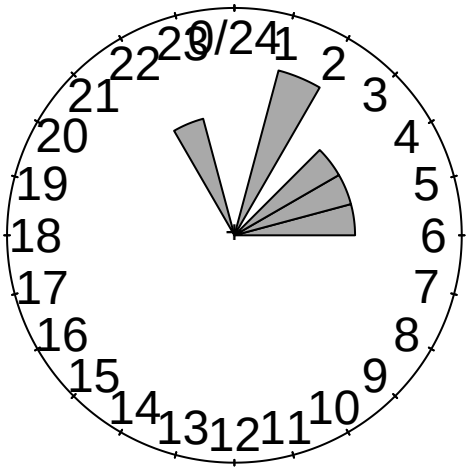
Figure 76



Small carnivore month frequency underpasses

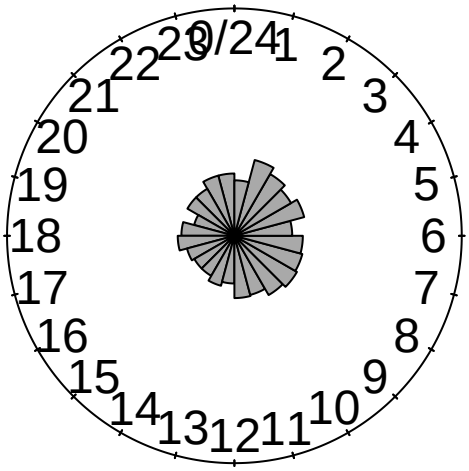
Carnivores hours of activity separated by species

Figure 77



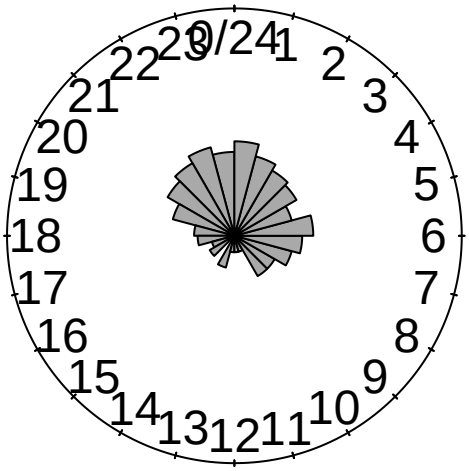
Bobcat hour frequency

Figure 78



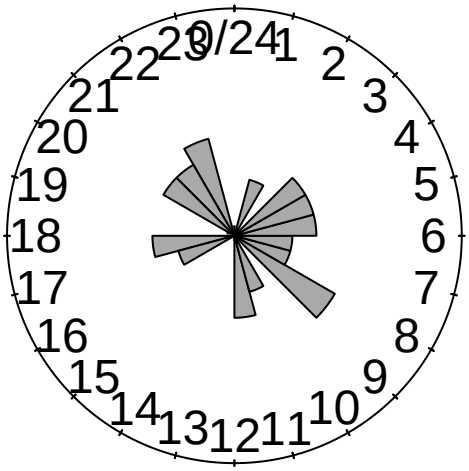
Coyote hour frequency

Figure 79



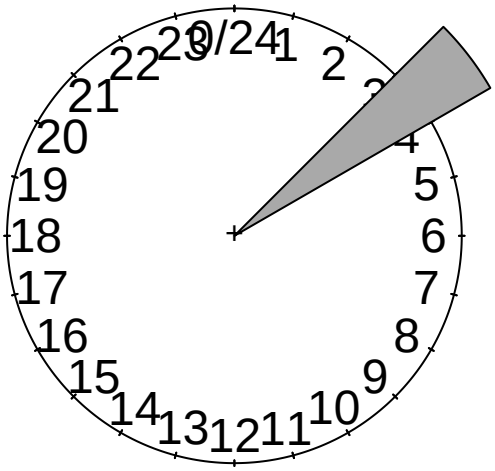
Cougar hour frequency

Figure 80



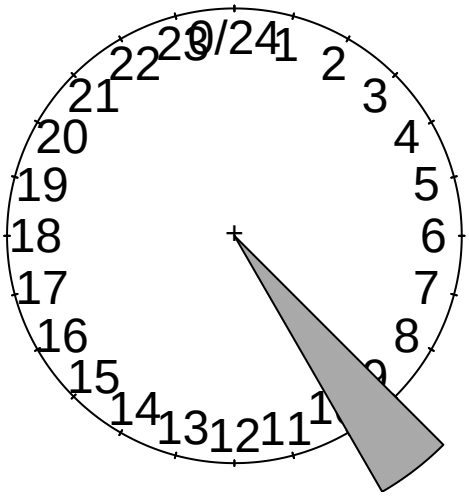
Grizzly Bear hour frequency

Figure 81



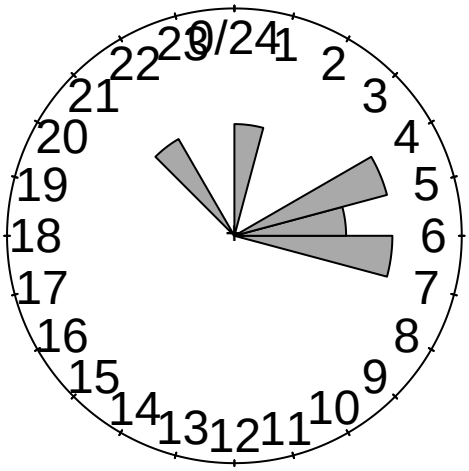
Lynx hour frequency

Figure 82



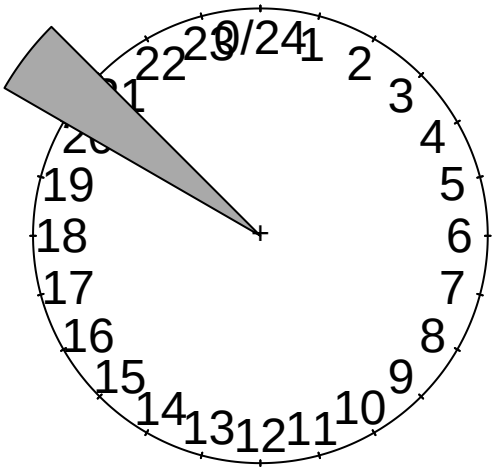
Pine Marten hour frequency

Figure 83



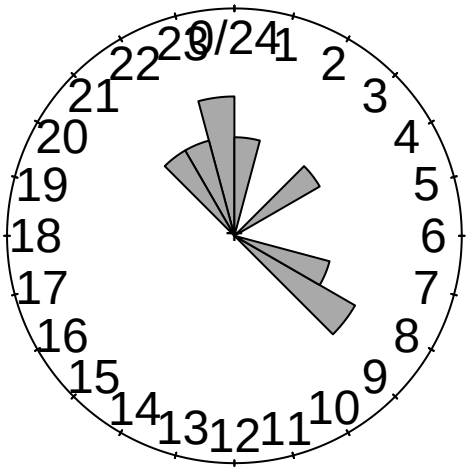
Red Fox hour frequency

Figure 84



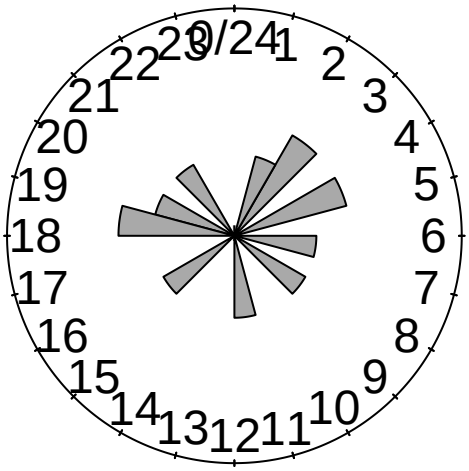
Striped Skunk hour frequency

Figure 85



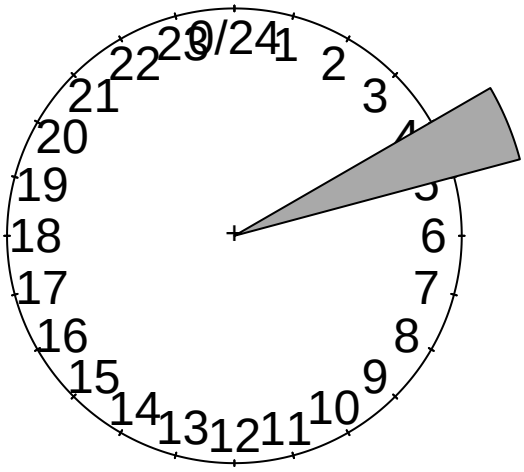
Unknown Bear hour frequency

Figure 86



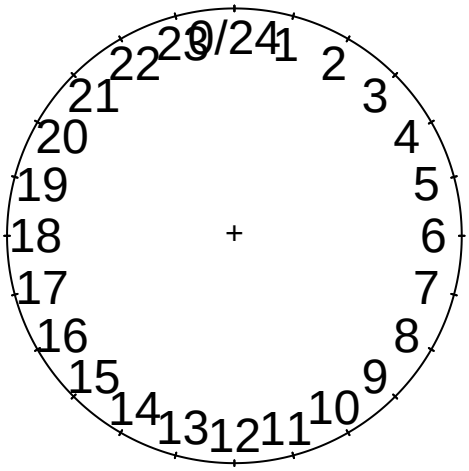
Wolf hour frequency

Figure 87



Wolverine hour frequency

Figure 88



Black Bear hour frequency