

The best model is model 2, which includes *light* and *year*, but not their interaction.

```
summary(bm)
```

```
##
## Family: gaussian
## Link function: identity
##
## Formula:
## logst(val) ~ light + year
##
## Parametric coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.05014    0.26089  -0.192  0.84840
## light        0.51996    0.22204   2.342  0.02339 *
## year2012     -0.52410    0.39566  -1.325  0.19156
## year2013     -0.69052    0.33707  -2.049  0.04599 *
## year2015     -0.06806    0.29279  -0.232  0.81717
## year2016     -1.07497    0.37580  -2.861  0.00625 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## R-sq.(adj) =  0.191   Deviance explained = 26.7%
## GCV = 0.72239   Scale est. = 0.64213    n = 54
```

Here there is one main effect of *light*, and the model indicates that maximum number of birds within 500 m of the TiL was $10^{0.52} = 3.3$ times higher during illuminated periods, on average.

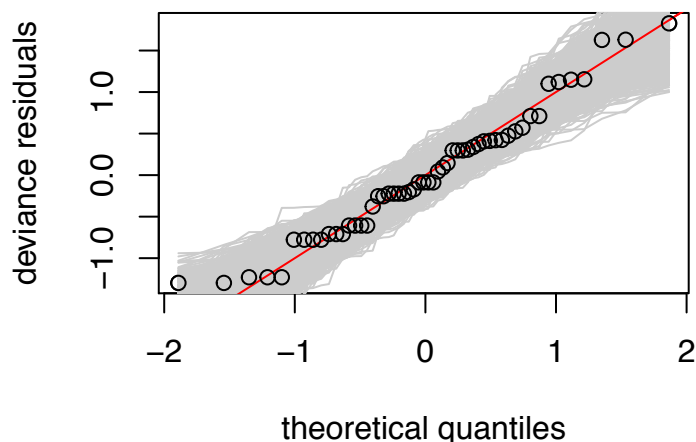
Results for the main text:

```
res = summary(bm)$p.table
res = cbind(res,Factor=10^(res[, "Estimate"]))
# Effect of light after exponentiating the coefficient to get multiplicative factor
print.model.summary(res[2,5],res[2,3],res[2,4],units="x",effect.word="factor")

## [1] "factor = 3.3x, t = 2.34, P = 0.0234"
```

No evidence for any deviation.

```
qq.gam(bm,rep=1000,pch=1,level=1)
```



The variance may be increasing, although the sample size of points at low x-values is small. No other structure