

```
> m1<-glmmPQL(Visits~Covid,random=~1|Type,data=CV,family=quasipoisson)
```

```
iteration 1
```

```
iteration 2
```

```
> summary(m1)
```

Linear mixed-effects model fit by maximum likelihood

Data: CV

AIC BIC logLik

NA NA NA

Random effects:

Formula: ~1 | Type

(Intercept) Residual

StdDev: 0.04106479 8.116669

Variance function:

Structure: fixed weights

Formula: ~invwt

Fixed effects: Visits ~ Covid

| | Value | Std.Error | DF | t-value | p-value |
|-------------|-----------|-----------|----|----------|---------|
| (Intercept) | 6.276294 | 0.1692661 | 5 | 37.07945 | 0.0000 |
| Covidyes | -1.179517 | 0.5441911 | 5 | -2.16747 | 0.0824 |

Correlation:

(Intr)

Covidyes -0.299

Standardized Within-Group Residuals:

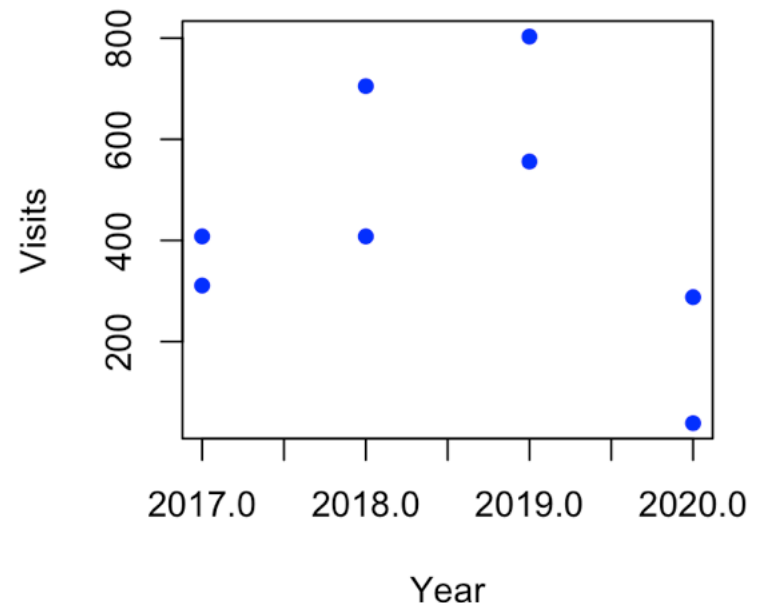
| Min | Q1 | Med | Q3 | Max |
|------------|------------|------------|-----------|-----------|
| -1.1993669 | -0.7775371 | -0.2429437 | 0.9684828 | 1.4189836 |

Number of Observations: 8

Number of Groups: 2

```
> round(((exp(6.276294-1.179517)-exp(6.276294))/exp(6.276294))*100)
```

```
[1] -69
```



69% drop in park visits

```
> m1<-gls(Nests.Poached~Covid,data=NP)
> summary(m1)
```

Generalized least squares fit by REML

Model: Nests.Poached ~ Covid

Data: NP

| | AIC | BIC | logLik |
|--|----------|----------|-----------|
| | 36.36206 | 34.52094 | -15.18103 |

Coefficients:

| | Value | Std.Error | t-value | p-value |
|-------------|-------|-----------|----------|---------|
| (Intercept) | 15 | 3.937004 | 3.810004 | 0.0189 |
| Covidyes | 5 | 9.643651 | 0.518476 | 0.6315 |

Correlation:

(Intr)

Covidyes -0.408

Standardized residuals:

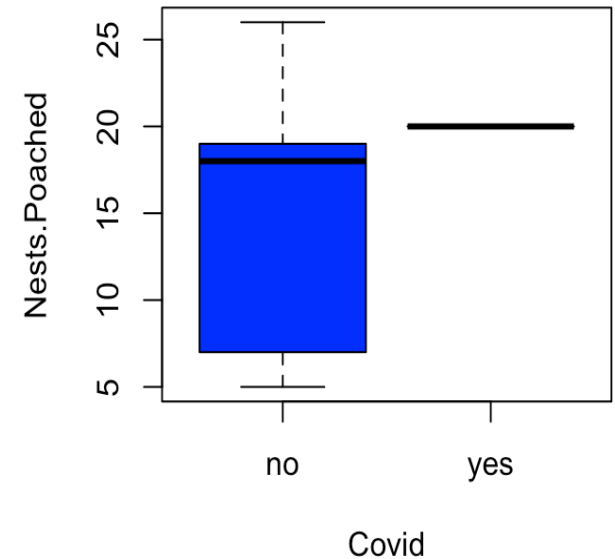
| | Min | Q1 | Med | Q3 | Max |
|--|------------|------------|-----------|-----------|-----------|
| | -1.1359237 | -0.6815542 | 0.1703886 | 0.4259714 | 1.2495160 |

Residual standard error: 8.803408

Degrees of freedom: 6 total; 4 residual

```
> round((5/15)*100)
```

```
[1] 33
```



33% increase in poaching

```
> m1<-gls(Turtles.Observed~Covid,data=T0)
```

```
> summary(m1)
```

Generalized least squares fit by REML

Model: Turtles.Observed ~ Covid

Data: T0

| | AIC | BIC | logLik |
|--|----------|----------|-----------|
| | 29.71234 | 27.87122 | -11.85617 |

Coefficients:

| | Value | Std.Error | t-value | p-value |
|-------------|-------|-----------|----------|---------|
| (Intercept) | 81.2 | 1.714643 | 47.35680 | 0.00 |
| Covidyes | 9.8 | 4.200000 | 2.33333 | 0.08 |

Correlation:

(Intr)

Covidyes -0.408

Standardized residuals:

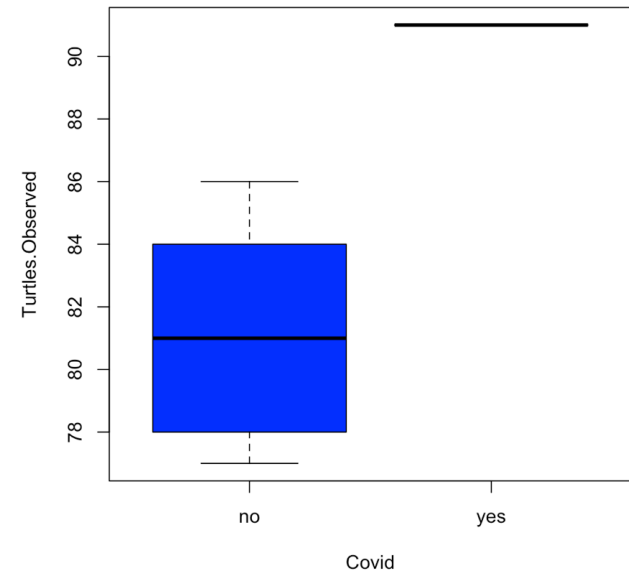
| | Min | Q1 | Med | Q3 | Max |
|--|-------------|-------------|-------------|------------|------------|
| | -1.09544512 | -0.63900965 | -0.02608203 | 0.54772256 | 1.25193727 |

Residual standard error: 3.834058

Degrees of freedom: 6 total; 4 residual

```
> round((9.8/81.2)*100)
```

```
[1] 12
```



**12% increase in turtles
observed, but with > effort**