"drifting_longlines"

```
[1] "drifting_longlines"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[1])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.416,0.031)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  5.5238551  0.0006477 8528.94   <2e-16 ***
Covidyes    -0.0567318  0.0013695  -41.42   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained =  100%
-REML = 1.2159e+06  Scale est. = 1         n = 22869
>
>   #you can calculate % difference from the summary table directly, or by u
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or get pred
, and I think we just need the main effect, i.e., % difference as a covid ef
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-predict(m
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
         1
-5.624833
```

"purse_seines"

```
[1] "purse_seines"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[2])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.414,0.002)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  3.961508   0.002133 1857.28   <2e-16 ***
Covidyes    -0.086518   0.004567  -18.94   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1


Deviance explained = 67.6%
-REML = 1.3308e+05  Scale est. = 1         n = 11208
>
>   #you can calculate % difference from the summary table directly, or by us
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or get predi
, and I think we just need the main effect, i.e., % difference as a covid eff
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-predict(mo
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-8.300817
```

"set_gillnets"

```
[1] "set_gillnets"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[3])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.232,0)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.294629   0.001082  3969.8   <2e-16 ***
Covidyes    -0.140200   0.002360   -59.4   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained = 98.4%
-REML = 5.5331e+05  Scale est. = 1         n = 27790
>
>   #you can calculate % difference from the summary table directly, or by u
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or get pred
, and I think we just need the main effect, i.e., % difference as a covid ef
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-predict(m
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
         1
-13.08312
```

"fishing_unclass"

```
[1] "fishing_unclass"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[4])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-33.158,7.388)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
            Estimate Std. Error  z value Pr(>|z|)
(Intercept) 4.414642   0.001024 4309.358  < 2e-16 ***
Covidyes    0.014429   0.002096    6.883 5.88e-12 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1


Deviance explained =  100%
-REML = 4.604e+05  Scale est. = 1         n = 20501
>
>   #you can calculate % difference from the summary table directly, or by usi
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or get predic
, and I think we just need the main effect, i.e., % difference as a covid effe
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-predict(mod
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
       1
9.596004
```

"fixed_gear"

```
[1] "fixed_gear"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[5])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.427,0.016)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.322423   0.001674  2581.5   <2e-16 ***
Covidyes    -0.048275   0.003629   -13.3   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1


Deviance explained = 97.6%
-REML = 2.5061e+05  Scale est. = 1         n = 12068
> #you can calculate % difference from the summary table directly, or
nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or ge
, and I think we just need the main effect, i.e., % difference as a co
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-pre
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-4.765103
```

"trawlers"

```
[1] "trawlers"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[6])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.369,0.006)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error  z value Pr(>|z|)
(Intercept)  4.8974159  0.0004308 11367.15   <2e-16 ***
Covidyes    -0.0872104  0.0009211   -94.68   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained =  100%
-REML = 3.3109e+06  Scale est. = 1         n = 103126
>
>   #you can calculate % difference from the summary table direc
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="y
>
>   #you can calculate from the summary table and backtransform,
, and I think we just need the main effect, i.e., % difference c
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pre
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-8.384466
```

"set_longlines"

```
[1] "set_longlines"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[7])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.374,0.003)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.705871   0.001315 3579.45   <2e-16 ***
Covidyes    -0.077879   0.002851  -27.31   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained = 99.9%
-REML = 4.7643e+05  Scale est. = 1         n = 13459
>
>   #you can calculate % difference from the summary table directly, or by
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes")
>
>   #you can calculate from the summary table and backtransform, or get pre
, and I think we just need the main effect, i.e., % difference as a covid e
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-predict(
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-7.507051
```

"tuna_purse_seir

```
[1] "tuna_purse_seines"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[8])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.297,0.002)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error  z value Pr(>|z|)
(Intercept)  4.384378   0.003137 1397.557  < 2e-16 ***
Covidyes    -0.032893   0.006467   -5.087 3.65e-07 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained = 99.3%
-REML =  52680  Scale est. = 1         n = 3170
>
>   #you can calculate % difference from the summary table direct
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="ye
>
>   #you can calculate from the summary table and backtransform,
, and I think we just need the main effect, i.e., % difference as
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.prec
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
         1
-3.239425
```

"dredge_fishing"

```
[1] "dredge_fishing"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[9])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.122,0)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.321142   0.002731 1582.54   <2e-16 ***
Covidyes    -0.257720   0.006262  -41.16   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained = 99.1%
-REML =  91430  Scale est. = 1         n = 3952
>
>   #you can calculate % difference from the summary table dir
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid=
>
>   #you can calculate from the summary table and backtransfor
, and I think we just need the main effect, i.e., % difference
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.p
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-22.72248
```

"pots_and_traps"

```
[1] "pots_and_traps"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[10])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-0.481,0.001)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.455207   0.003420 1302.65   <2e-16 ***
Covidyes    -0.157798   0.007419  -21.27   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '

Deviance explained = 97.6%
-REML =  63062  Scale est. = 1         n = 2823
>
>   #you can calculate % difference from the summary table
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Cov
>
>   #you can calculate from the summary table and backtrans
, and I think we just need the main effect, i.e., % differe
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); co
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-14.61113
```

"pole_and_line"

```
[1] "pole_and_line"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[11])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-30.733,7.167)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
            Estimate Std. Error  z value Pr(>|z|)
(Intercept) 4.226858   0.002059 2053.256  < 2e-16 ***
Covidyes    0.015113   0.004067    3.716 0.000202 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained =  100%
-REML = 1.0564e+05  Scale est. = 1         n = 5533
>
>   #you can calculate % difference from the summary table direc
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="y
>
>   #you can calculate from the summary table and backtransform,
, and I think we just need the main effect, i.e., % difference a
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pre
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
      1
9.49018
```

"trollers"

```
[1] "trollers"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[12])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-1.001,0)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  4.201590   0.009272   453.2  < 2e-16 ***
Covidyes    -0.139023   0.019580    -7.1 1.25e-12 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1


Deviance explained = 0.343%
-REML = 9557.1  Scale est. = 1         n = 754
>
>   #you can calculate % difference from the summary table directly
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="yes"
>
>   #you can calculate from the summary table and backtransform, or
, and I think we just need the main effect, i.e., % difference as a
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred<-
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-12.98026
```

```
[1] "squid_jigger"
>   dat=subset(GFWt,best_vessel_class==rownames(list)[13])
>   mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
>   summary(mod1)

Family: Zero inflated Poisson(-5.864,1.178)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
            Estimate Std. Error z value Pr(>|z|)
(Intercept) 4.936058   0.002433 2028.59   <2e-16 ***
Covidyes    0.195860   0.004485   43.67   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1


Deviance explained =  100%
-REML =  72257  Scale est. = 1         n = 2548
>
>   #you can calculate % difference from the summary table dire
s nice for complicated models so showing you here)
>   no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="
>
>   #you can calculate from the summary table and backtransform
, and I think we just need the main effect, i.e., % difference
e weighted using the df and t-statistic
>   no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pr
nse")
>
>   ((cov.pred-no.cov.pred)/no.cov.pred)*100
       1
38.36906
```

```
[1] "other_seines"
> dat=subset(GFWt,best_vessel_class==rownames(list)[14])
> mod1<-gam(round(gmean)~Covid,data=dat,family=ziP)
> summary(mod1)

Family: Zero inflated Poisson(0.16,0.019)
Link function: identity

Formula:
round(gmean) ~ Covid

Parametric coefficients:
             Estimate Std. Error z value Pr(>|z|)
(Intercept)  5.014492   0.006501  771.35   <2e-16 ***
Covidyes    -0.210470   0.014374  -14.64   <2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1


Deviance explained =  100%
-REML = 8750.6  Scale est. = 1         n = 286
> no.covid<-data.frame(Covid="no"); covid<-data.frame(Covid="ye
> no.cov.pred<-predict(mod1,no.covid,type="response"); cov.pred
e")
> ((cov.pred-no.cov.pred)/no.cov.pred)*100
        1
-19.13546
```