lit-rev

lit review quick exploration.

Search done in Web of Science

Search term used:

TS = ("species distribution" AND model AND predator AND prey) *TS = topic search

Load data and remove inapporpriate studies

```
lrev <- read.csv("./data/sdm-lit-44papers.csv", header = TRUE, stringsAsFactors = FALSE)
lrev <- lrev[!is.na(lrev$Year), ] #remove any rows with no data
t1 <- nrow(lrev) #how many papers did the search find
```

There are a total of 105 papers

remove studies that aren't origianl research

```
lrev <- subset(lrev, review..comment..opinion..not.an.article. == "no")
t2 <- nrow(lrev) #how many papers remaining
prm <- t1 - t2 #how many papers removed
```

8 papers removed as not original research 97 papers remaining

remove studies that don't include a predator-prey spatial interaction

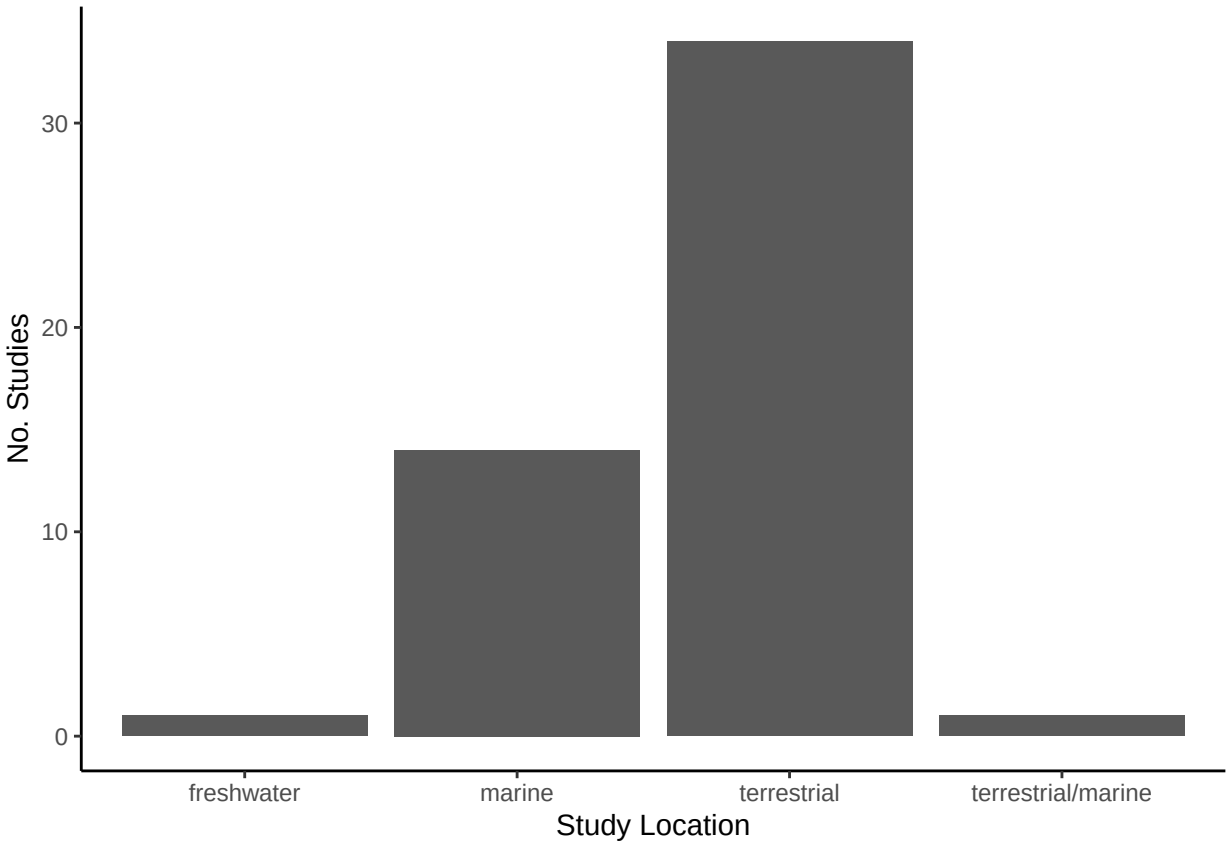
```
lrev <- subset(lrev, Does.it.include.predator.prey.interaction.and.distribution == "yes")
t3 <- nrow(lrev) #how many papers remaining
prm <- t2 - t3 #how many papers removed
```

47 papers removed as didn't inc pred-prey spatial interaction 50 papers remaining

Explore data

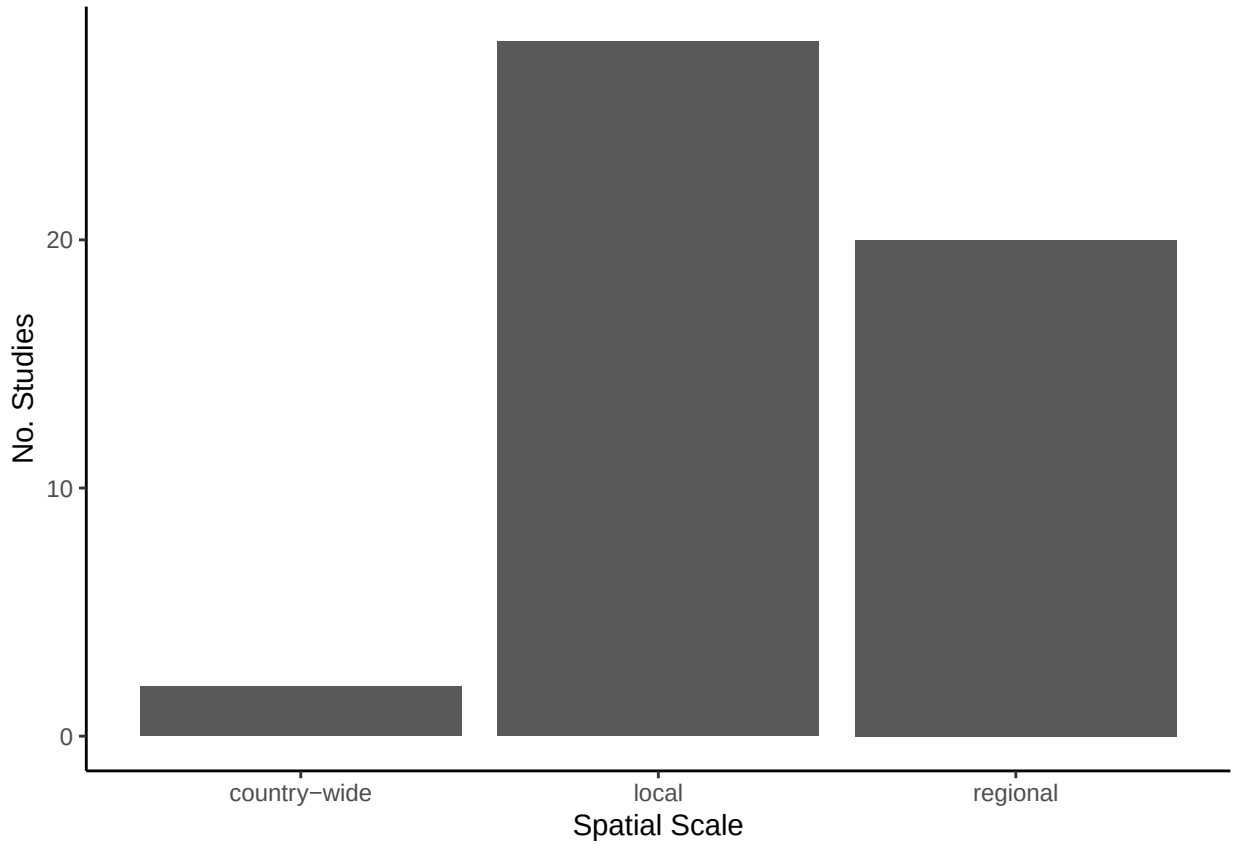
Which biome did the studies occur in

```
lw <- with(lrev, table(marine..terrestrial..fw))
write.csv(lw, file = "./output/land-water-count.csv")
ggplot(lrev, aes(marine..terrestrial..fw)) + geom_bar() + theme_classic () + labs(x = "Study Location",
```



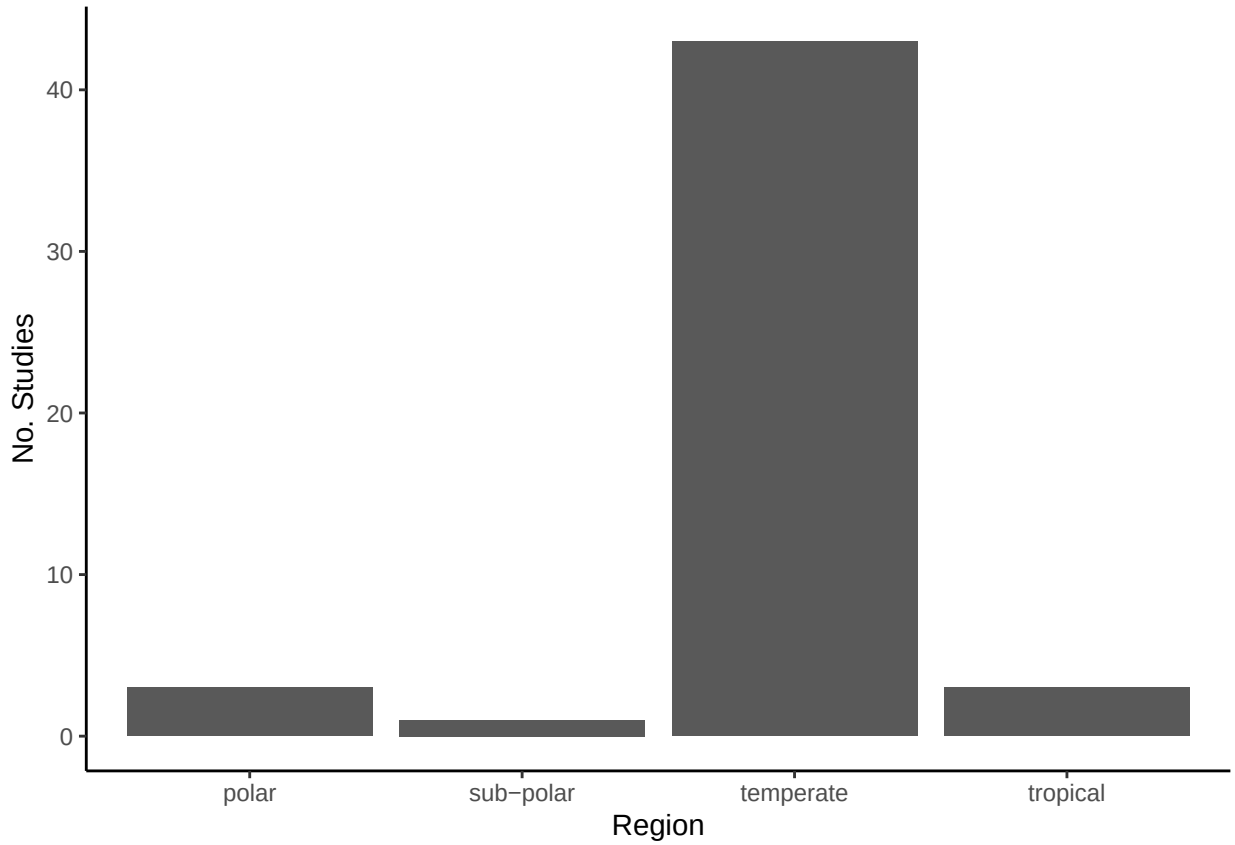
what spatial scale did the studies occur at

```
lw <- with(lrev, table(Spatial.Scale))
write.csv(lw, file = "./output/spatial-scale.csv")
ggplot(lrev, aes(Spatial.Scale)) + geom_bar() + theme_classic () + labs(x = "Spatial Scale", y = "No. S
```



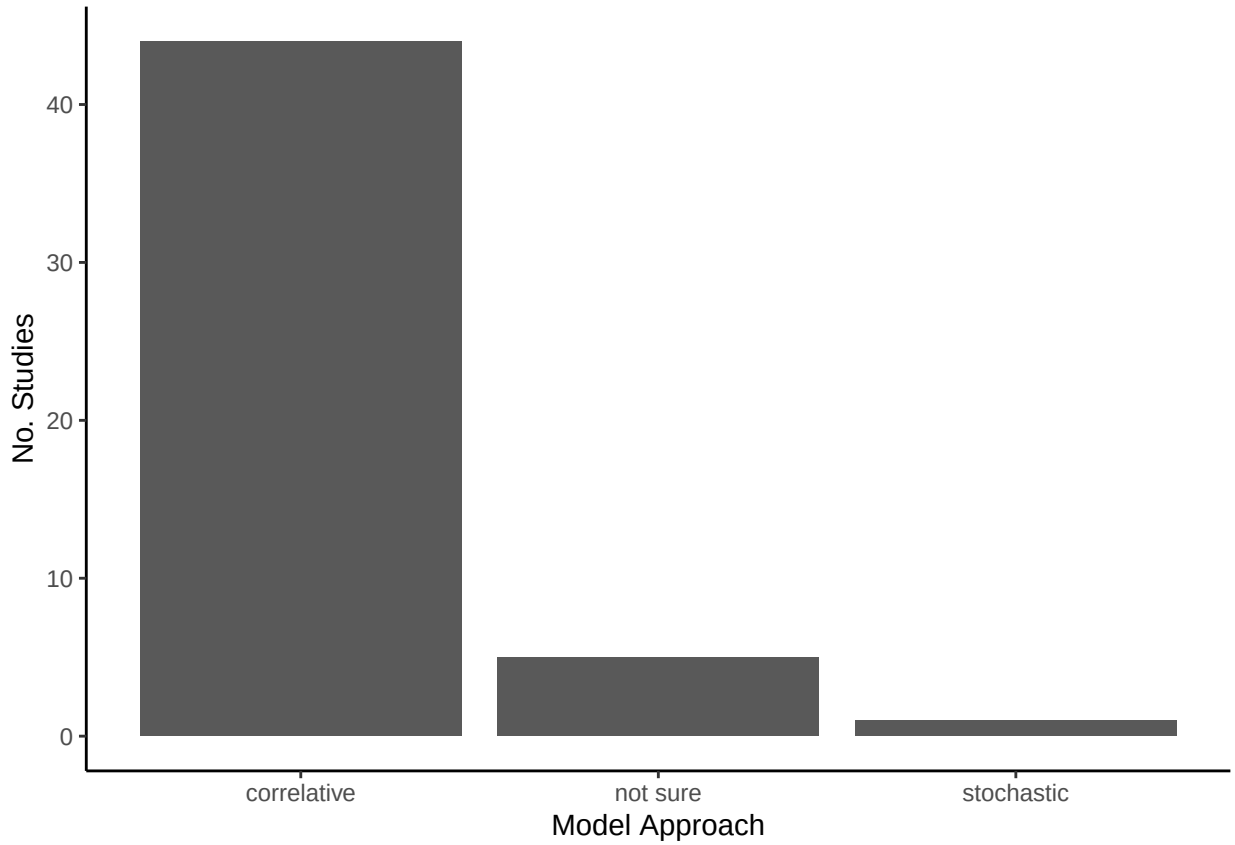
what 'region' did the studies occur in

```
lw <- with(lrev, table(Region))
write.csv(lw, file = "./output/region.csv")
ggplot(lrev, aes(Region)) + geom_bar() + theme_classic () + labs(x = "Region", y = "No. Studies")
```



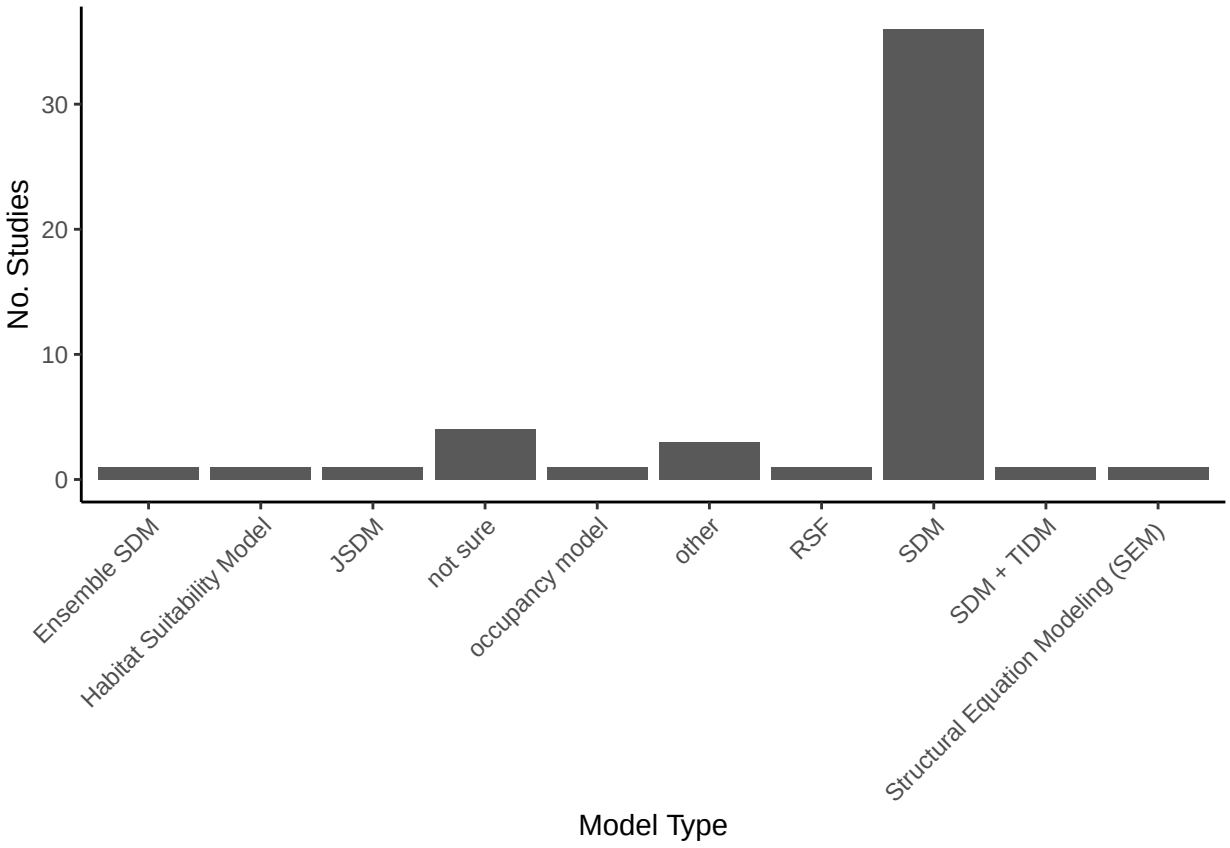
what model approach did the studies use

```
lw <- with(lrev, table(Model.Approach))
write.csv(lw, file = "./output/model-approach.csv")
ggplot(lrev, aes(Model.Approach)) + geom_bar() + theme_classic () + labs(x = "Model Approach", y = "No.
```



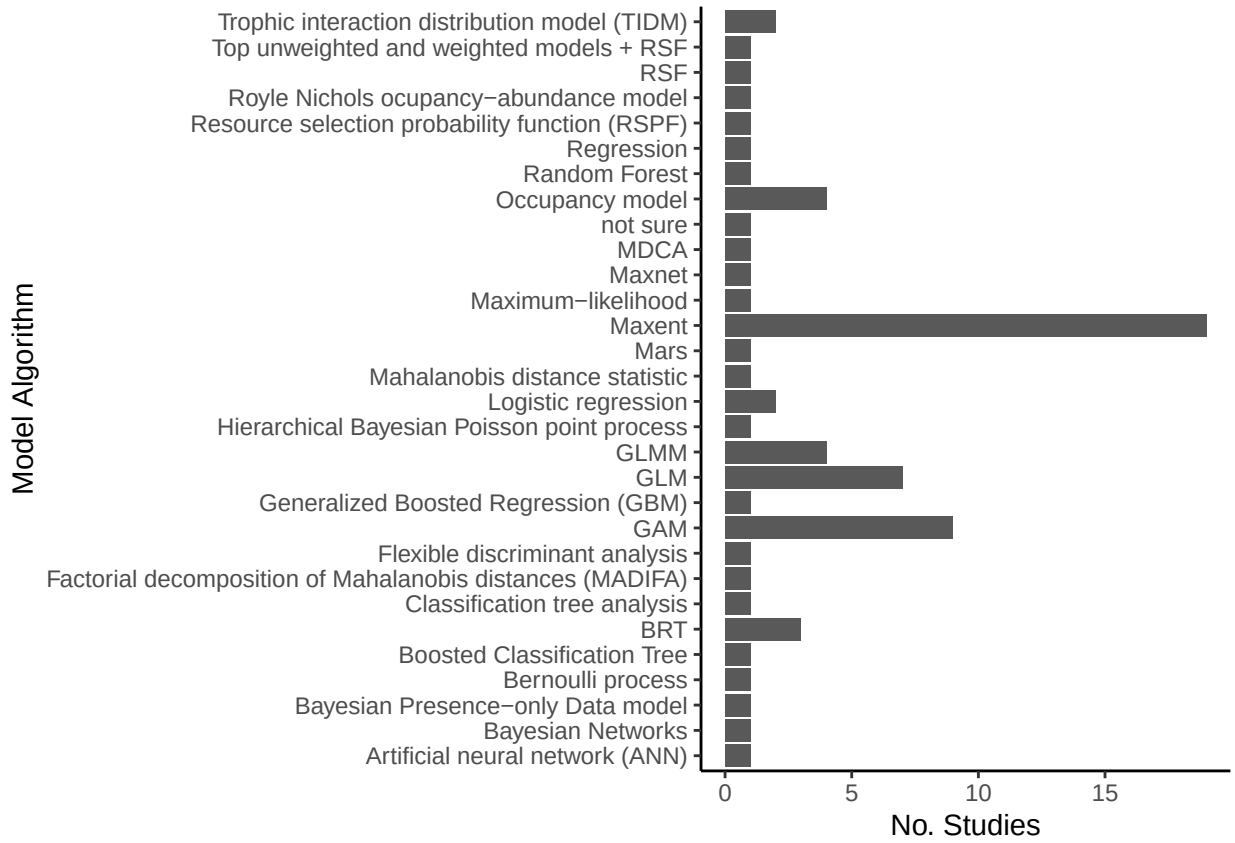
what model family did the studies use

```
lw <- with(lrev, table(ModelTypeSimple))
write.csv(lw, file = "./output/ModelTypeSimple.csv")
ggplot(lrev, aes(ModelTypeSimple)) + geom_bar() + theme_classic () + labs(x = "Model Type", y = "No. Stu
```



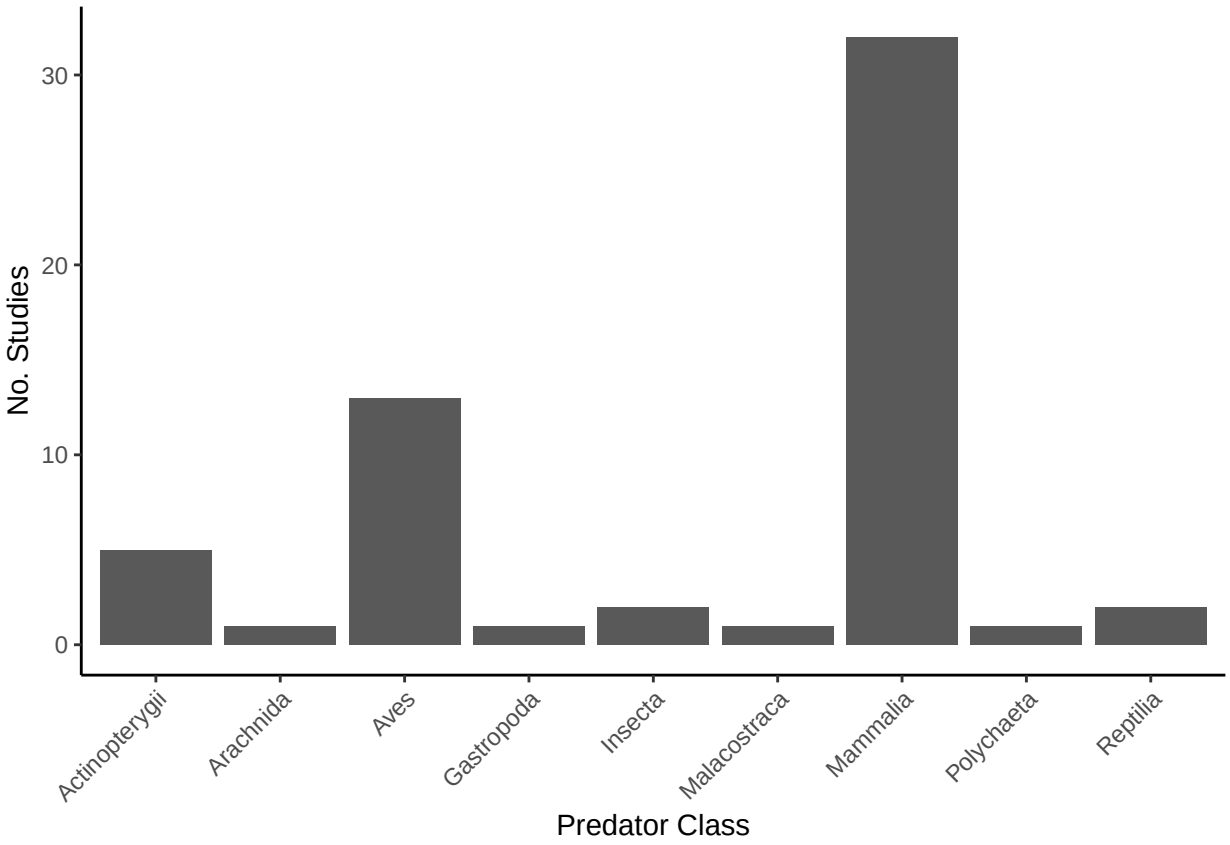
what model algoritms did the studies use

```
malg <- read.csv("./data/model-alg-simple.csv", header = TRUE, stringsAsFactors = FALSE) #models split
lw <- with(malg, table(ModelAlgorithmSimple))
write.csv(lw, file = "./output/ModelAlgorithmSimple.csv")
ggplot(malg, aes(ModelAlgorithmSimple)) + geom_bar() + theme_classic () + labs(x = "Model Algorithm", y
```



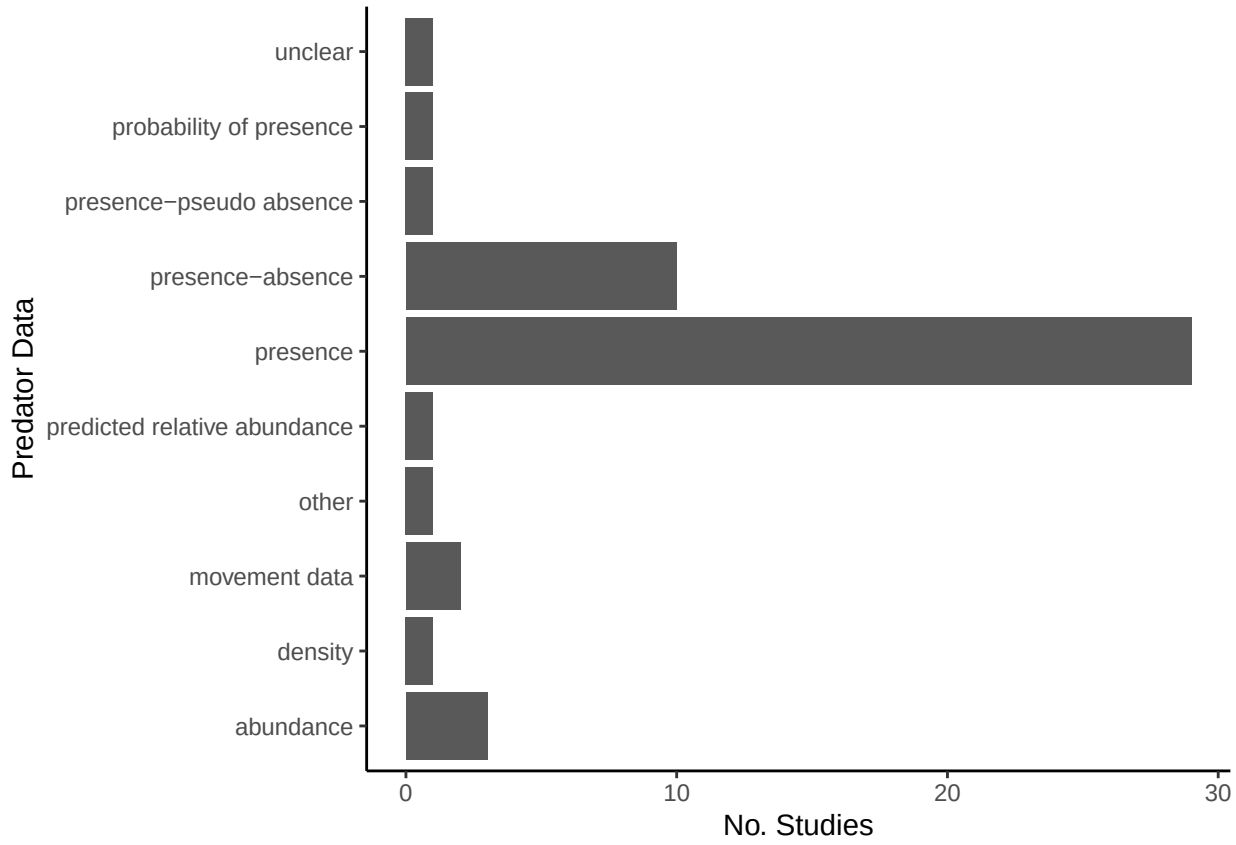
what predator class did the studies look at

```
malg <- read.csv("./data/pred-preyclass-simple.csv", header = TRUE, stringsAsFactors = FALSE) #models s
lw <- with(malg, table(PredatorClass))
write.csv(lw, file = "./output/PredClass.csv")
ggplot(malg, aes(PredatorClass)) + geom_bar() + theme_classic () + labs(x = "Predator Class", y = "No. S
```



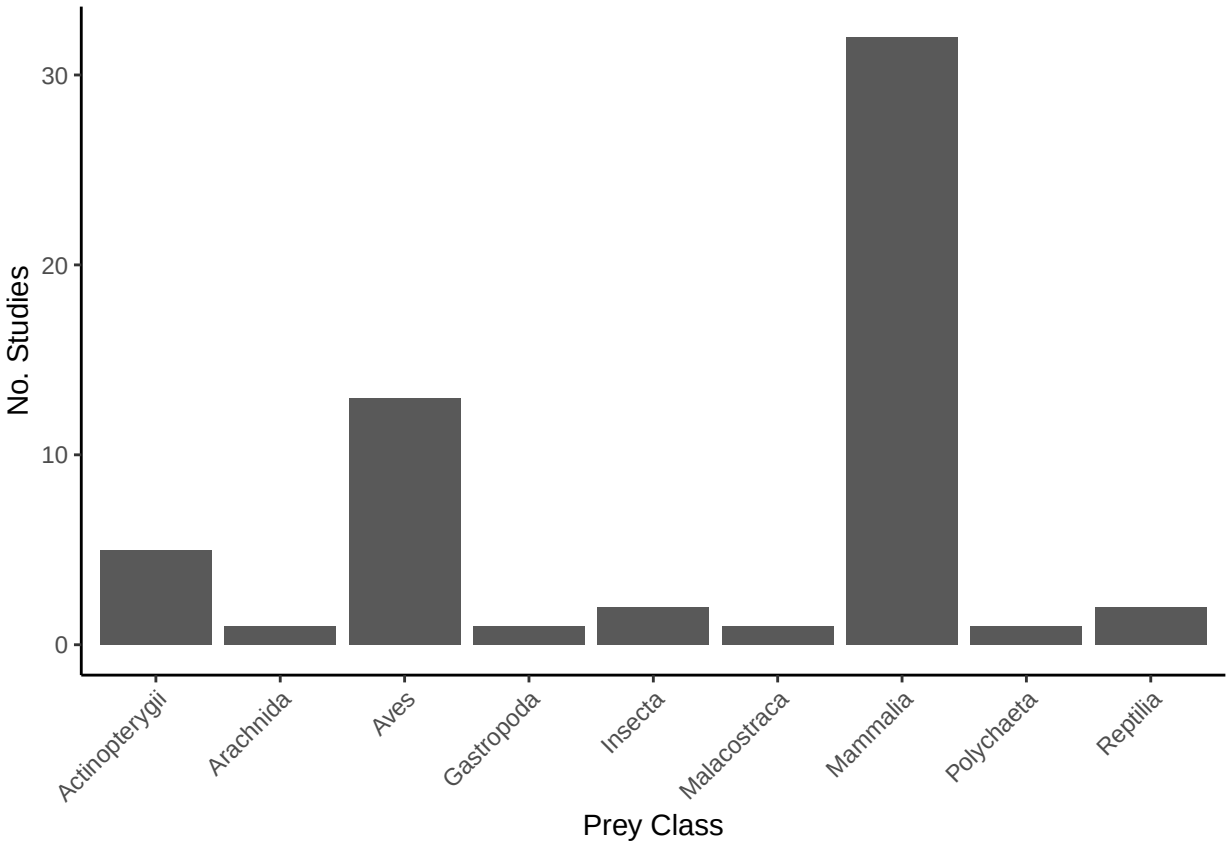
what predator data type did the studies use

```
lw <- with(lrev, table(PredatorDatatypeSimple))
write.csv(lw, file = "./output/PredDataSimple.csv")
ggplot(lrev, aes(PredatorDatatypeSimple)) + geom_bar() + theme_classic () + labs(x = "Predator Data", y
```



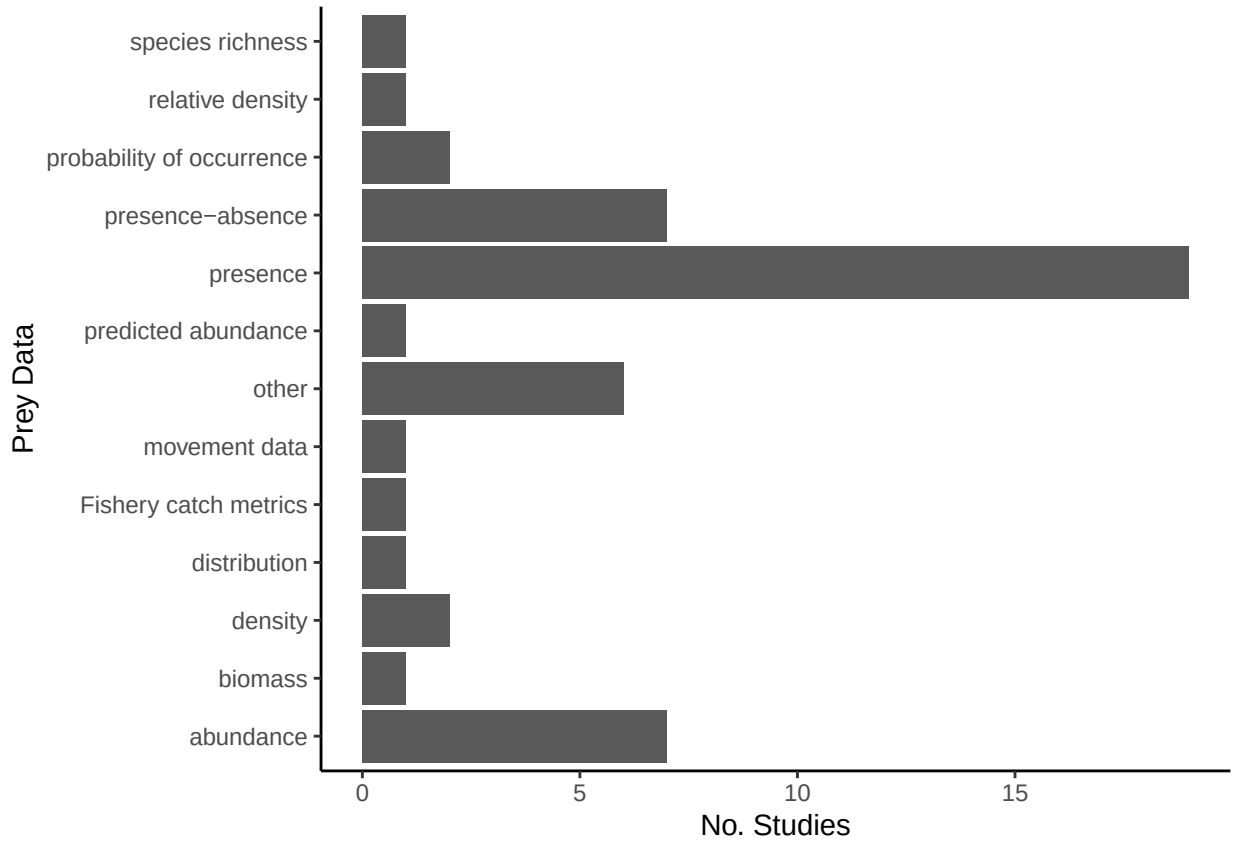
what prey class did the studies use

```
malg <- read.csv("./data/pred-preyclass-simple.csv", header = TRUE, stringsAsFactors = FALSE) #models s
lw <- with(malg, table(PredatorClass))
write.csv(lw, file = "./output/PreyClass.csv")
ggplot(malg, aes(PredatorClass)) + geom_bar() + theme_classic () + labs(x = "Prey Class", y = "No. Studi
```



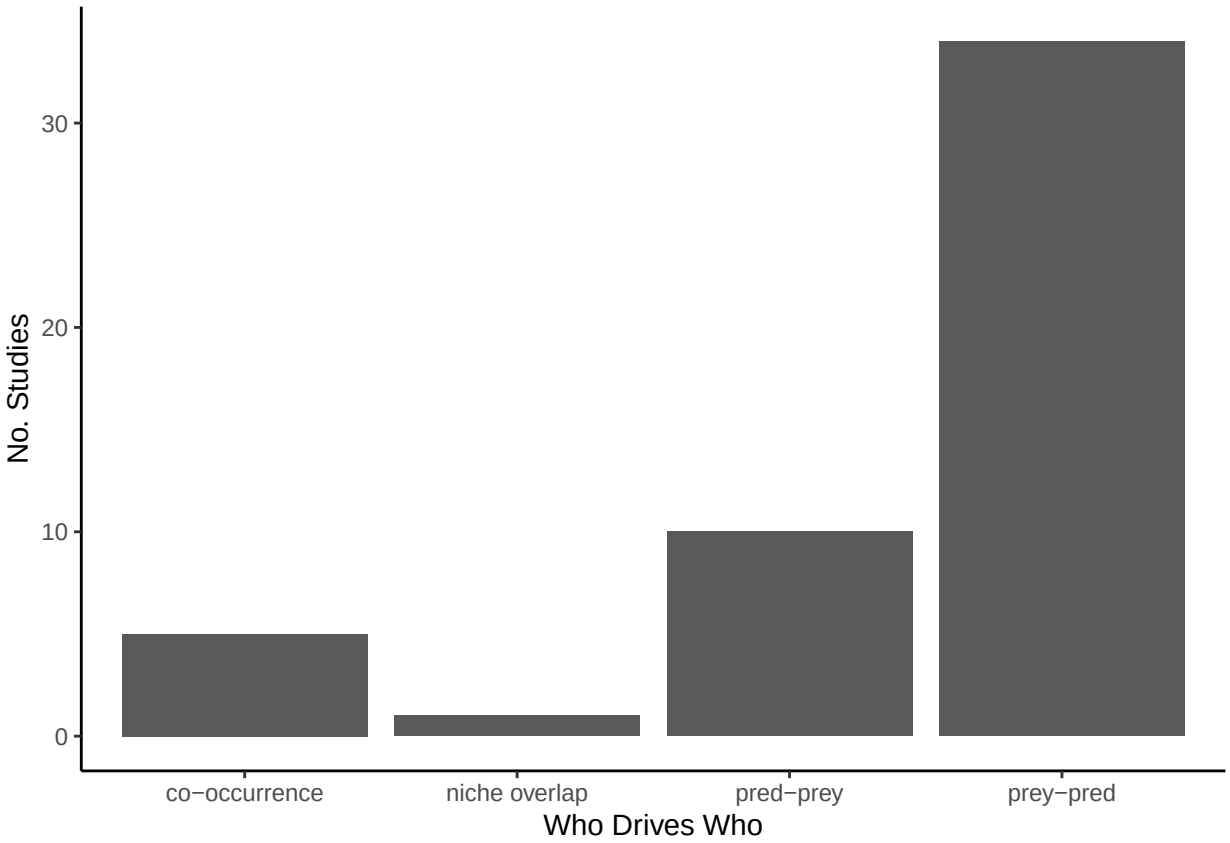
what prey data type did the studies use

```
lw <- with(lrev, table(PreyDataTypeSimple))
write.csv(lw, file = "./output/PreyDataSimple.csv")
ggplot(lrev, aes(PreyDataTypeSimple)) + geom_bar() + theme_classic () + labs(x = "Prey Data", y = "No. S
```



did the studies look at the influence of prey on predator 'distribution' (prey-pred), predator on prey (pred-prey), or co-occurrence (or niche - one study, that possibly shouldn't be included)

```
lw <- with(lrev, table(predator.impact.on.prey.or.prey.impacton.on.both))
write.csv(lw, file = "./output/Prey-pred-int.csv")
ggplot(lrev, aes(predator.impact.on.prey.or.prey.impacton.on.both)) + geom_bar() + theme_classic () + la
```


30
20
10
0
No. Studies
co−occurrence
niche overlap
pred−prey
prey−pred
Who Drives Who