Untitled

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```r
data("predWeights1km")
```

```r
knitr::opts_chunk$set(eval = F)
```

```r
system.time(predOcc500Det1 <- weightedDetection(occWeights = predWeights1km,
                                 visWeights = predWeights1km,
                                 noOccur = 500,
                                 noLocations = seq(50, 300, by = 50),
                                 noVisits = 1,
                                 detectProb = 1,
                                 nIter = 999))
```

```r
save(predOcc500Det1, file = "predOcc500Det1.Rdata")
```

```r
load("predOcc500Det1.Rdata")
```

```r
system.time(predOcc500Det0.8 <- weightedDetection(occWeights = predWeights1km,
                                 visWeights = predWeights1km,
                                 noOccur = 500,
                                 noLocations = seq(50, 300, by = 50),
                                 noVisits = 1,
                                 detectProb = 0.8,
                                 nIter = 999))
```

```r
save(predOcc500Det0.8, file = "predOcc500Det0.8.Rdata")
```

```r
load(file = "predOcc500Det0.8.Rdata")
plot(predOcc500Det0.8)
predOcc500Det0.8
```

```r
system.time(predOcc500Det0.3 <- weightedDetection(occWeights = predWeights1km,
                                 visWeights = predWeights1km,
                                 noOccur = 500,
                                 noLocations = seq(50, 300, by = 50),
                                 noVisits = 1,
                                 detectProb = 0.3,
                                 nIter = 999))
```

```r
save(predOcc500Det0.3, file = "predOcc500Det0.3.Rdata")
```

```r
load(file = "predOcc500Det0.3.Rdata")
plot(predOcc500Det0.3)
predOcc500Det0.3
```

```r
system.time(predOcc200Det0.8 <- weightedDetection(occWeights = predWeights1km,
                                 visWeights = predWeights1km,
                                 noOccur = 200,
                                 noLocations = seq(50, 600, by = 50),
```

```
                                   noVisits = 1,
                                   detectProb = 0.8,
                                   nIter = 999))

save(predOcc200Det0.8, file = "predOcc200Det0.8.Rdata")

load(file = "predOcc200Det0.8.Rdata")
plot(predOcc200Det0.8)
predOcc200Det0.8

system.time(predOcc100Det0.8 <- weightedDetection(occWeights = predWeights1km,
                                   visWeights = predWeights1km,
                                   noOccur = 100,
                                   noLocations = seq(50, 600, by = 50),
                                   noVisits = 1,
                                   detectProb = 0.8,
                                   nIter = 999))

save(predOcc100Det0.8, file = "predOcc100Det0.8.Rdata")

load(file = "predOcc100Det0.8.Rdata")
plot(predOcc100Det0.8)
predOcc100Det0.8

system.time(predOcc200Det0.3 <- weightedDetection(occWeights = predWeights1km,
                                   visWeights = predWeights1km,
                                   noOccur = 200,
                                   noLocations = seq(50, 600, by = 50),
                                   noVisits = 1,
                                   detectProb = 0.3,
                                   nIter = 999))

save(predOcc200Det0.3, file = "predOcc200Det0.3.Rdata")

load(file = "predOcc200Det0.3.Rdata")
plot(predOcc200Det0.3)
predOcc200Det0.3

system.time(predOcc100Det0.3 <- weightedDetection(occWeights = predWeights1km,
                                   visWeights = predWeights1km,
                                   noOccur = 100,
                                   noLocations = seq(50, 600, by = 50),
                                   noVisits = 1,
                                   detectProb = 0.3,
                                   nIter = 999))

save(predOcc100Det0.3, file = "predOcc100Det0.3.Rdata")

load(file = "predOcc100Det0.3.Rdata")
plot(predOcc100Det0.3)
predOcc100Det0.3

knitr::opts_chunk$set(eval = T)
```
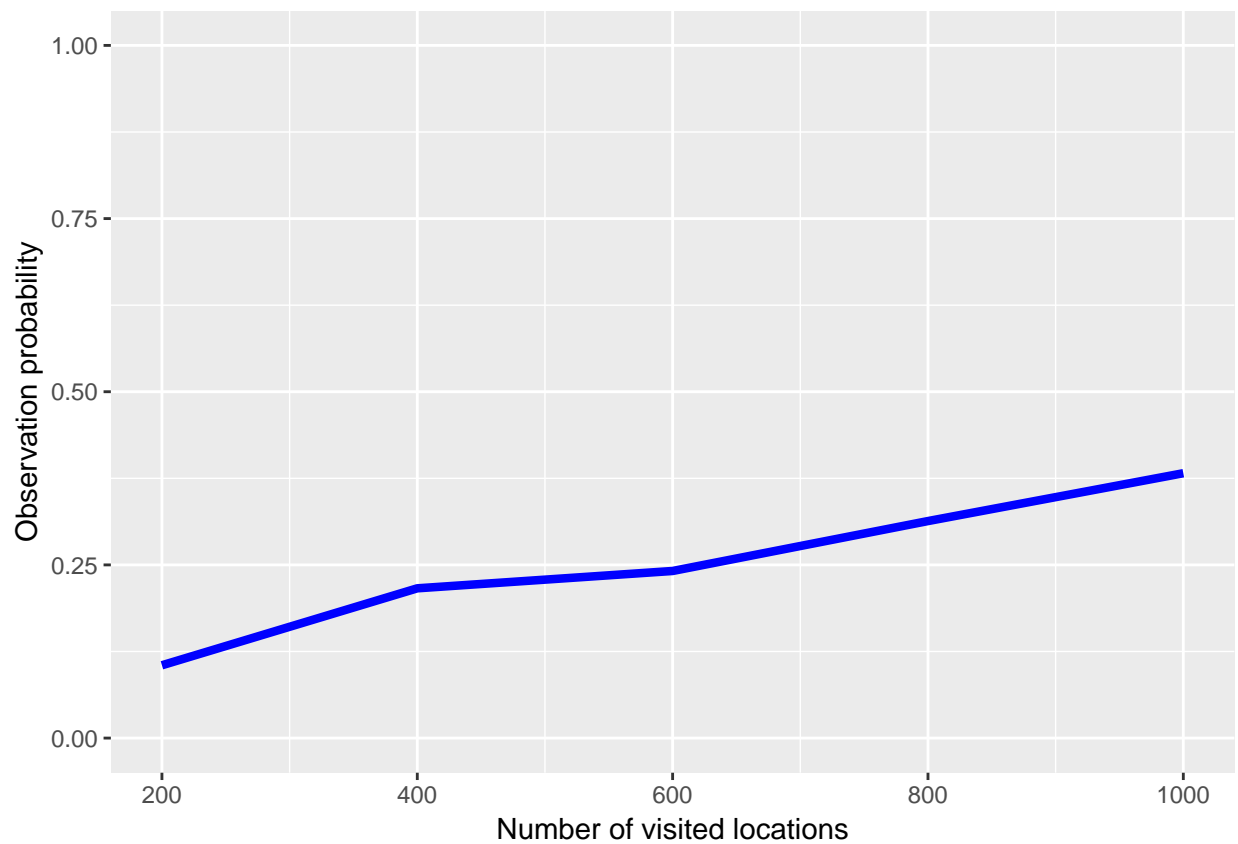
Test visiting only 1/16 of the plot.

```r
system.time(predOcc500Det0.05 <- weightedDetection(occWeights = predWeights1km,
                                     visWeights = predWeights1km,
                                     noOccur = 500,
                                     noLocations = seq(200, 1000, by = 200),
                                     noVisits = 1,
                                     detectProb = 0.8/16,
                                     nIter = 999))
```

```
##     user   system  elapsed
## 2514.564   21.616 2536.346
```

```r
save(predOcc500Det0.05, file = "predOcc500Det0.05.Rdata")
```

```r
load(file = "predOcc500Det0.05.Rdata")
plot(predOcc500Det0.05)
```



```r
predOcc500Det0.05
```

```
## # A tibble: 5 x 2
##   noLocations probObs
##         <dbl>   <dbl>
## ## 1       200   0.105
## ## 2       400   0.216
## ## 3       600   0.241
## ## 4       800   0.313
## ## 5      1000   0.382
```
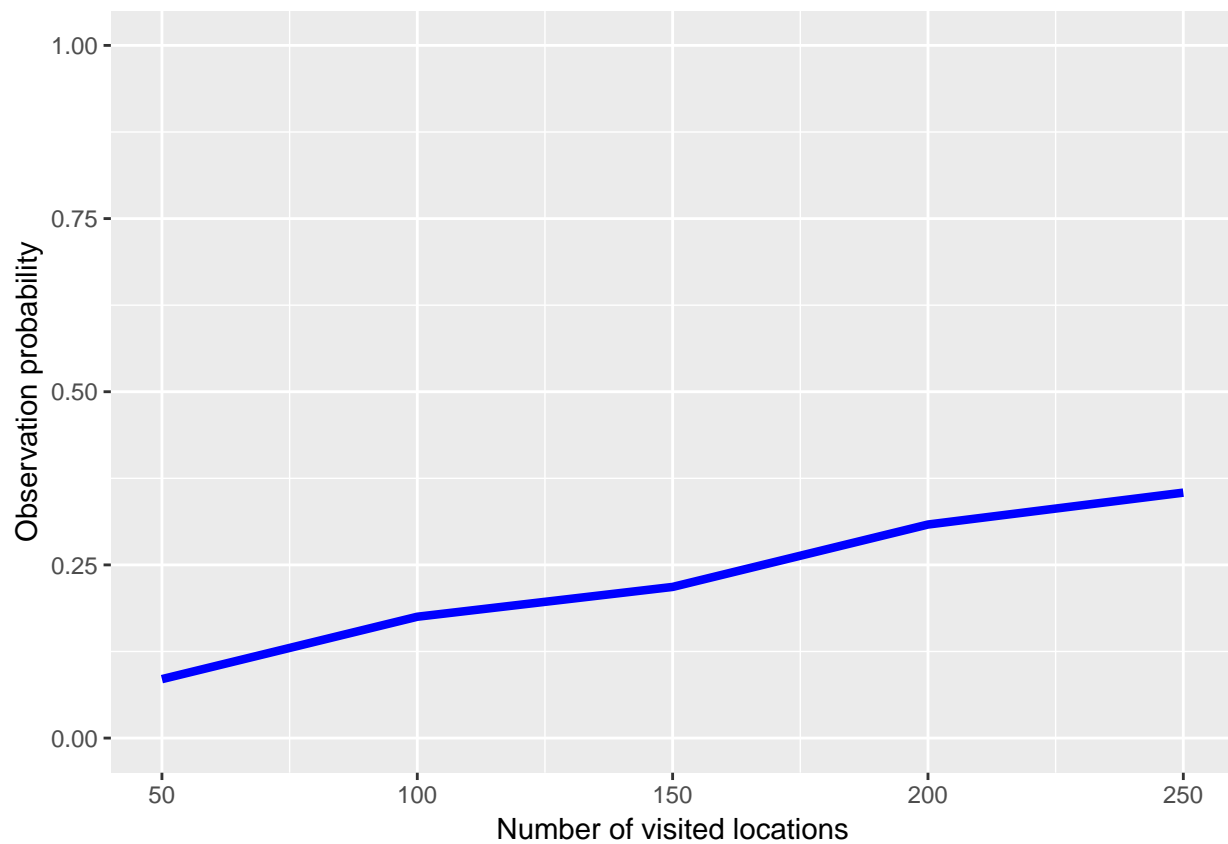
Test visit 4 times instead but lower no locations for same sample effort.

```
system.time(predOcc500Det0.05Vis4 <- weightedDetection(occWeights = predWeights1km,
                                                        visWeights = predWeights1km,
                                                        noOccur = 500,
                                                        noLocations = seq(50, 250, by = 50),
                                                        noVisits = 4,
                                                        detectProb = 0.8/16,
                                                        nIter = 999))
```

```
##     user   system  elapsed
## 1692.176    0.616 1692.890
```

```
save(predOcc500Det0.05Vis4, file = "predOcc500Det0.05Vis4.Rdata")
```

```
load(file = "predOcc500Det0.05Vis4.Rdata")
plot(predOcc500Det0.05Vis4)
```



```
predOcc500Det0.05Vis4
```

```
## # A tibble: 5 x 2
##   noLocations probObs
##         <dbl>   <dbl>
## 1        50.0  0.0851
## 2       100    0.175
## 3       150    0.218
## 4       200    0.308
## 5       250    0.354
```