

```
1  ##library I use for reading in images.
2  library(bmp)
3
4  ##attempting to capture the moment immediately after catching
5  ##made a list of each moment for susac and for posey
6  posey <- c(30, 167, 332, 457, 822, 1016, 1199,
7  1437, 1621, 1770, 1924, 2101, 2251, 2442, 2594,
8  2757, 2918, 3072, 3205, 3356, 3526, 3685,
9  4068, 4217)
10 susac <- c(751, 1286, 1485, 1666, 2030,
11 2187)
12
13 ##for Posey
14 ##read in files
15 v <- list.files("buster_posey_catching/")
16 v <- v[order(as.numeric(unlist(lapply(strsplit(v, split="i"), "[", 1)))))
17 setwd("buster_posey_catching/")
18 full <- list()
19 for(i in 1:length(v))
20 {
21 full[[i]] <- read.bmp(v[i])
22 }
23 setwd("../")
24
25 ##compare motion patterns across frames
26 posz <- vector()
27 for(i in 2:length(full))
28 {
29 posz[i] <- sum(abs(full[[i]][1:250,1:250,2:4]-full[[i-1]][1:250,1:250,2:4])>1)
30 print(i)
31 }
32
33 posm <- list()
34 for(i in 1:length(posey))
35 {
36 posm[[i]] <- posz[posey[i]:(posey[i]+100)]
37 }
38
39 ##same for Susac!
40 v <- list.files("andrew_susac_catching/")
41 v <- v[order(as.numeric(unlist(lapply(strsplit(v, split="i"), "[", 1)))))
42 setwd("andrew_susac_catching/")
43 full <- list()
44 for(i in 1:length(v))
45 {
46 full[[i]] <- read.bmp(v[i])
47 }
48 setwd("../")
49
50 susz <- vector()
51 for(i in 2:length(full))
52 {
53 susz[i] <- sum(abs(full[[i]][1:250,1:250,2:4]-full[[i-1]][1:250,1:250,2:4])>1)
54 print(i)
55 }
56
```

```
57 susm <- list()
58 for(i in 1:length(susac))
59 {
60   susm[[i]] <- susz[susac[i]:(susac[i]+100)]
61 }
62
63 ##now averaging motion patterns
64 ##across the receptions
65 posv <- vector()
66 susv <- vector()
67
68 for(i in 1:100)
69 {
70   posv[i] <- mean(unlist(lapply(posm, "[", i)))
71 }
72
73 for(i in 1:100)
74 {
75   susv[i] <- mean(unlist(lapply(susm, "[", i)))
76 }
77
78 plot(posv[1:20], type="l", col="red", lwd=3,
79      ylim=c(80000, 120000), xlab="Time", xaxt="no",
80      ylab="Total Pixel Movement")
81 lines(susv[1:20], type="l", col="blue", lwd=3)
82 axis(side=1, at=c(0,5,10,15,20),
83      labels=as.character(c(0,5,10,15,20)*.05))
84
85
```