

Zoo955 - Week 4

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Question 1) What is the percent of forest in the Mendota catchment?

Load raster

```
library(raster, verbose = F)
nlcd = raster('../Lecture4_RasterData/Data/MendotaNLCD.grd')
```

Get frequency counts

```
nlcdVals = freq(nlcd)
# Sum values, minus zero values
total = as.data.frame(nlcdVals) %>% dplyr::filter(value >= 1) %>%
  summarise_at('count', sum)

# Total forest counts
forest = as.data.frame(nlcdVals) %>% dplyr::filter(value >= 41 & value <= 43) %>%
  summarise_at('count', sum)

# Percent forest
perF = forest/total
perF
```

```
##          count
## 1 0.04385327
```

The % forest in Mendota watershed is ~ 4.4% (closer to 4.7% if you don't include Lake Mendota)

2) What is the area of forest in the Mendota catchment (report in km2)?

Each cell is 30x30 m.

Therefore each cell is 900 m². We know that our forest total = 29347.

```
# multiply counts by cell size and then convert to km2
forest * 900 / 1000000
```

```
##          count
## 1 26.4123
```

The area of forest in Mendota watershed is 26.4 km²