

# Rediscretization\_\_Temporal

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## Rediscretization of Tracks - 20 seconds between positions

- Using primary and secondary filtered data to rediscretize tracks for further analysis
- Tracks have been split into bursts where successive positions were separated by  $> 50\text{m}$
- this threshold can be altered in “Final\_Filtering.Rmd” if desired
- Before rediscretizing, remove bursts with  $< 10$  positions (too few to rediscretize in adehabitatLT)
- also note that the interval of 20 seconds was selected to be consistent with the 2015 analysis; another script will discretize at 2 seconds to be more consistent with ELAM outputs and USGS analysis

```
## [1] 76269    15
```

```
## [1] 374
```

```
## [1] 374
```

```
## [1] 203.92780748663102
```

```
## [1] 22 578
```

```
red9.ltraj = as.ltraj(xy=red9[,c("east","north")], date=red9$date,  
                     id=factor(red9$id), burst = factor(red9$burst),  
                     infolocs=red9[,c("Hpes","east","north")])
```

## Discretize in Time

```
# discretize in time  
red9.trdz = ld(redisltraj(red9.ltraj, u=20, type="time", nnew=50))  
red9.trdz$run = "LFC" # creates a common grouping variable to make UD with all points  
red9.trdz=red9.trdz[order(red9.trdz$id,red9.trdz$date),]  
  
# recalculate migration speed  
red9.trdz$spd_mps = red9.trdz$dist / red9.trdz$dt
```

And finally, output the general metrics about the remaining dataset

```
dim(red9.trdz) # 14466 detections after discretization
```

```
## [1] 14466    31
```

```
length(unique(red9.trdz$id)) # 374
```

```
## [1] 374
```

```
ndetects.discr = summarize(group_by(red9.trdz, id), ndet = n())  
  mean(ndetects.discr$ndet) # 38.68 per fish
```

```
## [1] 38.679144385026738
```

```
range(ndetects.discr$ndet) # ranges from 15 - 139
```

```
## [1] 15 139
```

```
max(red9.trdz$spd_mps, na.rm=T) # 4.81 mps
```

```
## [1] 4.8073565029896006
```