Making figures for RoM in R

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Introduction

The main argument for using R to create RoM figures is to standardize figures across species and to do so while limiting repetive work. This is a work in progress so any feedback on this document or the figures are highly appreciated!

This document contains instructions and code for creating the four types of basic plots that will be used in RoM, these will be described in their own sections below. I have chosen data for pike (*Esox lucious*) as an example, because it has all potential data for a RoM species (recreational, multiple areas, error bars etc.). These data have been uploaded on github: https://github.com/maxlindmark/ROM, and below is a piece of code that reads it into your session.

Prerequisitics: 1) R-studio is strongly preferred as it allows you to work in so called projects where you can set a relative working directory. 2) Prepare your data so that it is structured in the same way as the example below.

It is an advantage if you know some Basic R. R-code is text with grey background. You can copy these chunks of code to a new R-script or directly into the console in R-studio.

1. Load libraries

```r
rm(list = ls()) # clear the workspace from objects

# Provide package names
pkgs <- c("devtools", "ggplot2", "RCurl", "RCurl", "tidyr", "dplyr", "scales")

# Install packages
#install.packages(pkgs) # remove the hashtag if you already have them installed

# Load all packages
invisible(lapply(pkgs, function(x) require(x, character.only = T, quietly = T)))

# Print package version
x <- devtools::session_info(pkgs = pkgs)
x <- as.data.frame(x$packages)
x <- dplyr::filter(x, package %in% pkgs) %>%
dplyr::select(-`*`, -date, -source) %>%
dplyr::arrange(package)
x
```

```
##     package   version
## 1 devtools    1.13.6
## 2    dplyr     0.7.5
## 3  ggplot2     3.0.0
## 4    RCurl 1.95-4.10
## 5   scales     0.5.0
## 6    tidyr     0.8.1
```

2. Read in data

```
# Go to https://github.com/maxlindmark/ROM to view the data in the browser
dat <- read.csv(text
                =getURL("https://raw.githubusercontent.com/maxlindmark/ROM/master/pike.csv"))

head(dat, 25)
```

```
##     X X.c5.r error rec_plus rec_minu          Sj.f6. Ton
## 1   1   1997    NA       NA       NA Stora sj<f6>arna 115
## 2   2   1998    NA       NA       NA Stora sj<f6>arna 114
## 3   3   1999    NA       NA       NA Stora sj<f6>arna 149
## 4   4   2000    NA       NA       NA Stora sj<f6>arna 145
## 5   5   2001    NA       NA       NA Stora sj<f6>arna 121
## 6   6   2002    NA       NA       NA Stora sj<f6>arna 145
## 7   7   2003    NA       NA       NA Stora sj<f6>arna 129
## 8   8   2004    NA       NA       NA Stora sj<f6>arna 109
## 9   9   2005    NA       NA       NA Stora sj<f6>arna  94
## 10 10   2006    NA       NA       NA Stora sj<f6>arna 106
## 11 11   2007    NA       NA       NA Stora sj<f6>arna 106
## 12 12   2008    NA       NA       NA Stora sj<f6>arna 103
## 13 13   2009    NA       NA       NA Stora sj<f6>arna  96
## 14 14   2010    NA       NA       NA Stora sj<f6>arna  89
## 15 15   2011    NA       NA       NA Stora sj<f6>arna  88
## 16 16   2012    NA       NA       NA Stora sj<f6>arna 102
## 17 17   2013    NA       NA       NA Stora sj<f6>arna  89
## 18 18   2014    73      223       77 Stora sj<f6>arna 104
## 19 19   2015    51      184       82 Stora sj<f6>arna  82
## 20 20   2016    NA       NA       NA Stora sj<f6>arna  92
## 21 21   2017    NA       NA       NA Stora sj<f6>arna  79
## 22 22   1997    NA       NA       NA      V<e4>nern  55
## 23 23   1998    NA       NA       NA      V<e4>nern  49
## 24 24   1999    NA       NA       NA      V<e4>nern  54
## 25 25   2000    NA       NA       NA      V<e4>nern  58
```

```
# Read in the palette we are going to use
pal <- c("#56B4E9", "#009E73", "#F0E442", "#0072B2", "#E69F00", "#D55E00")
```