Package: kwdemog (via r-universe)

November 26, 2024

Type Package

Title Package for processing and exploring killer whale demographic data

Version 1.0.3

Date 2023-12-15

Description Generates killer whale demographic data from rows (observations) and fits preliminary models.

Depends R (>= 4.0.0)

Imports dplyr, mgcv, usethis, stringr, ggridges, ggplot2, rstanarm, viridis, testthat

Suggests knitr, rmarkdown, gridExtra

URL https://noaa-nwfsc.github.io/srkw-status/

BugReports https://github.com/noaa-nwfsc/srkw-status/issues

License GPL (>=3)

RoxygenNote 7.3.2

Encoding UTF-8

VignetteBuilder knitr

LazyData true

Roxygen list(markdown = TRUE)

Config/pak/sysreqs cmake git libglpk-dev make libgit2-dev libicu-dev libxml2-dev libssl-dev libx11-dev zlib1g-dev

Repository https://nmfs-opensci.r-universe.dev

RemoteUrl https://github.com/noaa-nwfsc/srkw-status

RemoteRef HEAD

RemoteSha 6165c78240f0a1fb2ed7c31d38ec8e2ef4c81c6e

Contents

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ages2stages	*A data frame mapping Southern Resident killer whales ages and sexes to life stages*

Description

A data frame mapping Southern Resident killer whales ages and sexes to life stages

Usage

```
ages2stages
```

Format

A data frame.

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expand	*Function expand expands a data frame from animals as observations to animal-years as obserations*

Description

Function expand expands a data frame from animals as observations to animal-years as obserations

Usage

```
expand(
  filename,
  start_year = 1976,
  current_year = NULL,
  fem_age_mat = 10,
  fem_age_senesc = 43,
  ages2stages = NULL
)
```

Arguments

`filename`	A file location (csv file) with births and deaths of each animal
`start_year`	Starting year for the expanded data, starts at 1976
`current_year`	End year for the expanded data, defaults to current calendar year
`fem_age_mat`	Female age at maturity, 10 years of age by default
`fem_age_senesc`	Female age at reproductive senescence, defaults to 43
`ages2stages`	A data frame of mapping ages and sexes to stages

Examples

```
## Not run:
library(kwdemog)
data(orca)
data(ages2stages)
expanded_data = expand(orca, ages2stages = ages2stages)
# or use a filename
expanded_data = expand("use_this_file.csv", start_year = 1979, current_year = 2018,
fem_age_mat = 10, fem_age_senesc = 43, ages2stages = ages2stages)

## End(Not run)
```

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orca   *Example census for Southern Resident killer whales*

Description

Example census for Southern Resident killer whales

Usage

```
orca
```

Format

A data frame.

| project | *Function to project SRKW population in the future using individual based models* |

Description

Function to project SRKW population in the future using individual based models

Usage

```
project(
  whale_data,
  seed = 123,
  n_years = 30,
  scenarios = c("1981:2020"),
  n_iter = 200,
  verbose = FALSE,
  p_female = NA,
  n_births = NA
)
```

Arguments

whale_data	the expanded data frame, returned by expand()
seed	the random seed used to initialize simulations, defaults to 123
n_years	the length of the time series projections, defaults to 30 time steps
scenarios	a character string, or vector of strings describing which scenario to be run. Should be entered as a range of years separated by a colon, e.g. "1981:1985" to use rates from 1981 to 1985 or ("1981:1985","1981:2021")
n_iter	the number of iterations per scenario, defaults to 200
verbose	whether to print status updates to screen, defaults to FALSE
p_female	The probability of a female birth, defaults to the empirical value since 1980
n_births	The number of births used to calculate p_female. By default, this defaults to the empirical value observed since 1980 the probability of female birth. Larger values result in more precise estimates of p_female

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| projections | *A data frame containing future SRKW population projections* |

Description

A data frame containing future SRKW population projections

Usage

```
projections
```

Format

A data frame.

| writedata | *Function takes csv file and converts is to saved object* |

Description

Function takes csv file and converts is to saved object

Usage

```
writedata(filename)
```

Arguments

filename   A file location (csv file) with births and deaths of each animal

Examples

```
## Not run:
writedata("inst/extdata/whaleData_08-06-2018.csv")

## End(Not run)
```

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