Class 'Stock'

An operating model component that specifies the parameters of the population dynamics model

Slots

Name
The name of the Stock object

maxage
The maximum age of individuals that is simulated (there is no 'plus group': individuals die off beyone the maximum age so there isn't a huge cost to simulating more older age classes)

R0
The magnitude of unfished recruitment. This is normally fixed to some arbitrary value since it simply scales the simulated numbers)

M
Natural mortality rate (uniform distribution)

Msd
Inter-annual variability in natural mortality rate expressed as a coefficient of variation (uniform distribution)

Mgrad
Mean temporal trend in natural mortality rate, expressed as a percentage change in M per year (uniform distribution)

h
Steepness of the stock recruit relationship (uniform distribution)

SRrel
Type of stock-recruit relationship (1)Beverton-Holt (2) Ricker

Linf
Maximum length (uniform distribution)

K
von B. growth parameter k (uniform distribution)

t0
von B. theoretical age at length zero (uniform distribution)

Ksd
Inter-annual variability in growth parameter k (uniform distribution)

Kgrad
Mean temporal trend in growth parameter k, expressed as a percentage change in k per year (uniform distribution)

Linfsd
Inter-annual variability in maximum length - uniform distribution

Linfgrad
Mean temporal trend in maximum length, expressed as a percentage change in Linf per year (uniform distribution)

recgrad
Mean temporal trend in log-normal recruitment deviations (uniform distribution)

AC
Autocorrelation in recruitment deviations rec(t)=AC*rec(t-1)+(1-AC)*sigma(t) (uniform distribution)

a
Length-weight parameter alpha (uniform distribution)

b
Length-weight parameter beta (uniform distribution)

L50
Length-at- 50 percent maturity (uniform distribution)

L50_95
Length increment from 50 percent to 95 percent maturity

D
Current level of stock depletion (Bcurrent/Bunfished) (uniform distribution)

Perr
Process error, the CV of lognormal recruitment deviations (uniform distribution)

Period
Period for cylical recruitment pattern in years (uniform distribution). Leave empty to ignore

Amplitude
Amplitude in deviation from long-term average recruitment during recruitment cycle, both positive and negative (uniform distribution). E.g., a range from 0 to 0.5 means recruitment decreases or increases by up to 50% each cycle. Leave empty to ignore

Size_area_1
The size of area 1 relative to area 2 (uniform distribution)

Frac_area_1
The fraction of the unfished biomass in stock 1 (uniform distribution)

Prob_staying
The probability of inviduals in area 1 remaining in area 1 over the course of one year

Source
A reference to a website or article form which parameters were taken to define the operating model

Objects from the Class

Objects can be created by calls of the form `new('Stock')`

Examples

```
showClass('Stock')
#> Class "Stock" [package "DLMtool"]
#>
#> Slots:
#>
#> Name:          Name       maxage           R0            M          Msd
#> Class:    character      numeric      numeric      numeric      numeric
#>
#> Name:         Mgrad            h        SRrel         Linf            K
#> Class:      numeric      numeric      numeric      numeric      numeric
#>
#> Name:            t0          Ksd        Kgrad       Linfsd     Linfgrad
#> Class:      numeric      numeric      numeric      numeric      numeric
#>
#> Name:       recgrad            a            b            D         Perr
#> Class:      numeric      numeric      numeric      numeric      numeric
#>
#> Name:        Period    Amplitude  Size_area_1  Frac_area_1 Prob_staying
#> Class:      numeric      numeric      numeric      numeric      numeric
#>
#> Name:            AC          L50       L50_95       Source
#> Class:      numeric      numeric      numeric    character
```

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Site built with pkgdown (http://hadley.github.io/pkgdown/).