Population Viability Analysis Parameter log

# Set up

The log file was created on: 2026-01-08 13:00:10 using Tool version 2, with R version 4.2.2, PVA package version: 4.18 (with UI version 1.7)

## Package Version   
## popbio "popbio" "2.8"   
## shiny "shiny" "1.8.0"   
## shinyjs "shinyjs" "2.1.0"   
## shinydashboard "shinydashboard" "0.7.3"   
## shinyWidgets "shinyWidgets" "0.8.2"   
## DT "DT" "0.33"   
## plotly "plotly" "4.10.4"  
## rmarkdown "rmarkdown" "2.25"   
## dplyr "dplyr" "1.1.4"   
## tidyr "tidyr" "1.3.1"

# Basic information

This run had reference name “PU\_North Caithness Cliffs”.  
PVA model run type: simplescenarios.  
Model to use for environmental stochasticity: betagamma.  
Model for density dependence: nodd.  
Include demographic stochasticity in model?: Yes.  
Number of simulations: 5000.  
Random seed: 52.  
Years for burn-in: 10.  
Case study selected: None.

# Baseline demographic rates

Species chosen to set initial values: Atlantic Puffin.  
Region type to use for breeding success data: .  
Available colony-specific survival rate: . Sector to use within breeding success region: .  
Age at first breeding: 5.  
Is there an upper constraint on productivity in the model?: Yes, constrained to 1 per pair.  
Number of subpopulations: 1.  
Are demographic rates applied separately to each subpopulation?: No.  
Units for initial population size: breeding.adults  
Are baseline demographic rates specified separately for immatures?: Yes.

### Population 1

**Initial population values:** Initial population 5438 in 2021

**Productivity rate per pair:** mean: 0.617 , sd: 0.151

**Adult survival rate:** mean: 0.906 , sd: 0.083

**Immatures survival rates:**

Age class 0 to 1 - mean: 0.709 , sd: 0.022 , DD: NA

Age class 1 to 2 - mean: 0.709 , sd: 0.022 , DD: NA

Age class 2 to 3 - mean: 0.709 , sd: 0.022 , DD: NA

Age class 3 to 4 - mean: 0.76 , sd: 0.019 , DD: NA

Age class 4 to 5 - mean: 0.805 , sd: 0.017 , DD: NA

# Impacts

Number of impact scenarios: 2.

Are impacts applied separately to each subpopulation?: No

Are impacts of scenarios specified separately for immatures?: No

Are standard errors of impacts available?: No

Should random seeds be matched for impact scenarios?: No

Are impacts specified as a relative value or absolute harvest?: relative

Years in which impacts are assumed to begin and end: 2032 to 2081

## Impact on Demographic Rates

### Scenario A - Name: PU\_NC\_lower

#### All subpopulations

**Impact on productivity rate** mean: 0 , se: NA

**Impact on adult survival rate** mean: 0.0060552 , se: NA

### Scenario B - Name: PU\_NC\_higher

#### All subpopulations

**Impact on productivity rate** mean: 0 , se: NA

**Impact on adult survival rate** mean: 0.0099222 , se: NA

## Output:

First year to include in outputs: 2023  
Final year to include in outputs: 2082  
How should outputs be produced, in terms of ages?: breeding.adults  
Target population size to use in calculating impact metrics: NA  
Quasi-extinction threshold to use in calculating impact metrics: NA