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EaglePOPd Web Interactive: Validation bundle

Cornell Wildlife Health Lab,
Animal Health Diagnostic Center,
College of Veterinary Medicine,
Cornell University
Ithaca, New York, USA

Contacts

Software programmer and modeler:
Brenda Hanley, bjh262@cornell.edu (temporary),
fomalhaut14@gmail.com (permanent)

Research collaborators:
André Dhondt, aad4@cornell.edu (permanent)
Brian Dennis, brian@uidaho.edu (permanent)

Research supervisor:
Krysten Schuler, ks833@cornell.edu (permanent)

Overview of the validation bundle

This validation bundle includes software to verify the use of the algorithm when one or more modeling assumptions are unmet. Specifically, the computer selects a randomly generated configuration of matrix elements, then projects an adult time series. The algorithm then uses that time series to estimate all the underlying parameters. The software then overlays the algorithm predictions onto the "true" underlying random parameter. If the algorithm catches the true value of the parameter within its range, it is said to have "successful predictive performance."

Preparing and running the software

Step 1: Refer to the table (below) to find the appropriate validation # given the unmet assumption(s).
Step 2: Download the "Validation #.R" software.
Step 3: Install the package "popdemo". To install a package, type install.packages("popdemo") into your console and run the line.
Step 4: Click "Run All". The software will automatically overlay the algorithm predictions for each of the demographic parameters found in EaglePOPd.

Technical details

This software was written under R Studio Version 1.1.463 – © 2009-2018 RStudio, Inc., and requires one package: "popdemo".

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Software	PMM Structure		Age at first breeding	Biological Assumption Present?				
	Complex structure	Simple structure		SI Survival	Fertility	Reaching SIII	Life Expectancy	Initial SIIs
Validation 1	Yes	No	Five	Yes - Met				
Validation 2				Unmet	Yes - Met			
Validation 3				Yes - Met	Unmet	Yes - Met		
Validation 4				Yes - Met		Unmet	Yes - Met	
Validation 5				Yes - Met			Unmet	Yes - Met
Validation 6				Yes - Met				Unmet
Validation 7				Unmet				
Validation 8	No	Yes		Yes				
Validation 9				Unmet				
Validation 10	Yes	No		Yes - Met				
Validation 11				Unmet				
Validation 12	No	Yes		Yes - Met				
Validation 13				Unmet				
Validation 14	Yes	No	Four	Yes - Met				
Validation 15			Six	Yes - Met				
Validation 16			Three	Yes - Met				