Climatic effects on life history in the hazel dormouse

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Supervised by

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people's trust for endangered species

University of Cumbria

WOODLAND TRUST

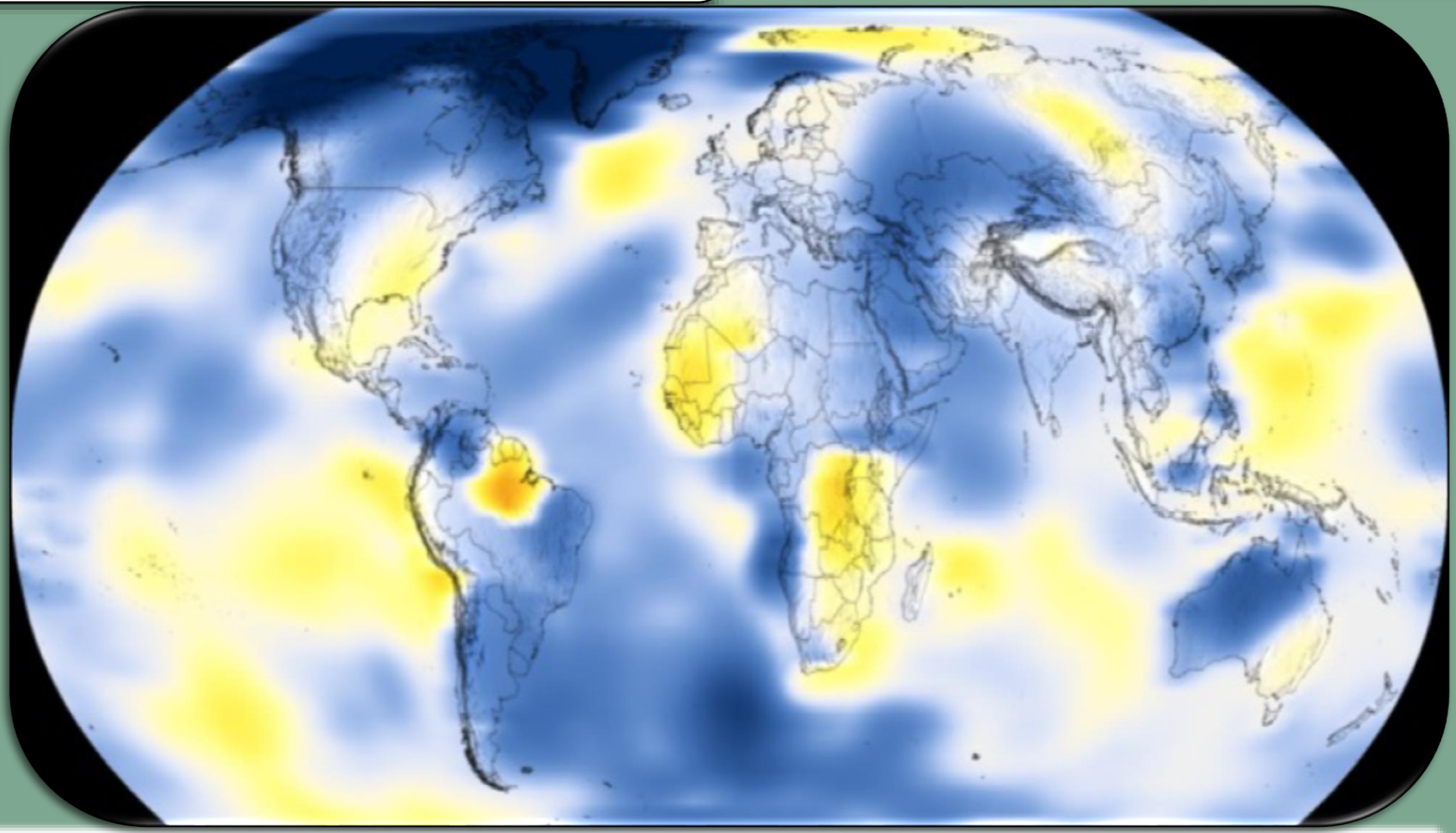
Suffolk Wildlife Trust

CHESTER ZOO

Woodland Trust/WTML

Global Climate Change

1888



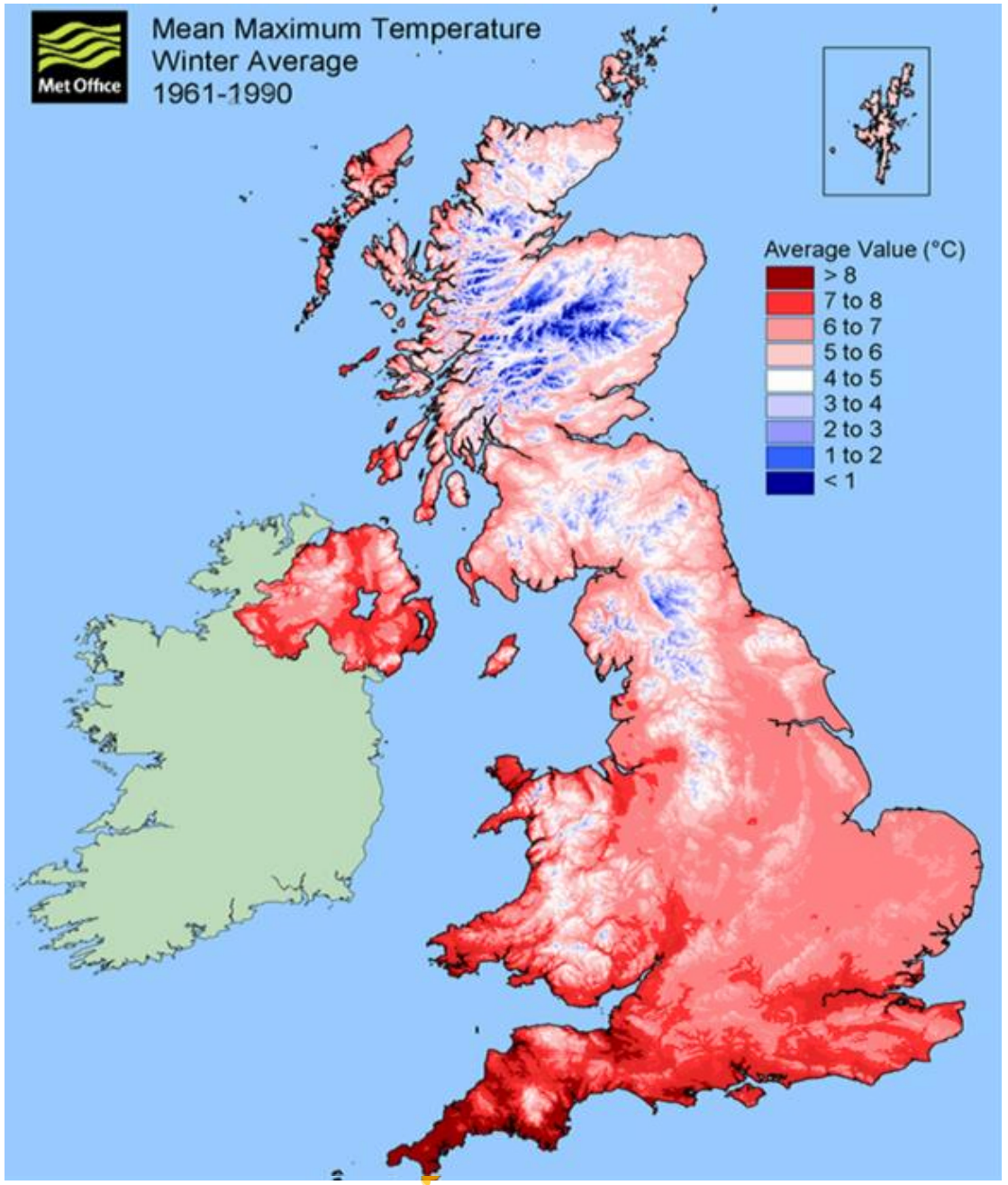
NASA's Climate Time Machine https://climate.nasa.gov/interactives/climate-time-machine

UK Climate change

Dormice present

Dormice common

Reintroduction site



Climate change and hibernators

Functional Ecology

Thermal climate-linked variation in annual survival rate of hibernating rodents: shorter winter dormancy and lower survival in warmer climates

Christopher Turbill* and Samantha Prior

Hawkesbury Institute for the Environment, Western Sydney University, Locked Bag 1797, Penrith 2751, New South Wales, Australia

Ecology and Evolution

Fitness implications of seasonal clim

Columbian ground squirrels

F. Stephen Dobson[1], Jeffrey E. Lane[2], Matthew Low[3] & Jan O.

Chapter 8

Impact of Climatic Variation on the Hibernation Physiology of *Muscardinus avellanarius*

Iris Pretzlaff and Kathrin H. Dausmann

Climate change is affecting altitudinal migrants and hibernating species

David W. Inouye*†, Billy Barr[‡], Kenneth B. Armitage[†§], and Brian D. Inouye[¶]

Journal of Mammalogy, 90(1):17–24, 2009

BODY MASS AND WINTER SEVERITY AS PREDICTORS OF OVERWINTER SURVIVAL IN PREBLE'S MEADOW JUMPING MOUSE

Robert A. Schorr,* Paul M. Lukacs, and Gregory L. Florant

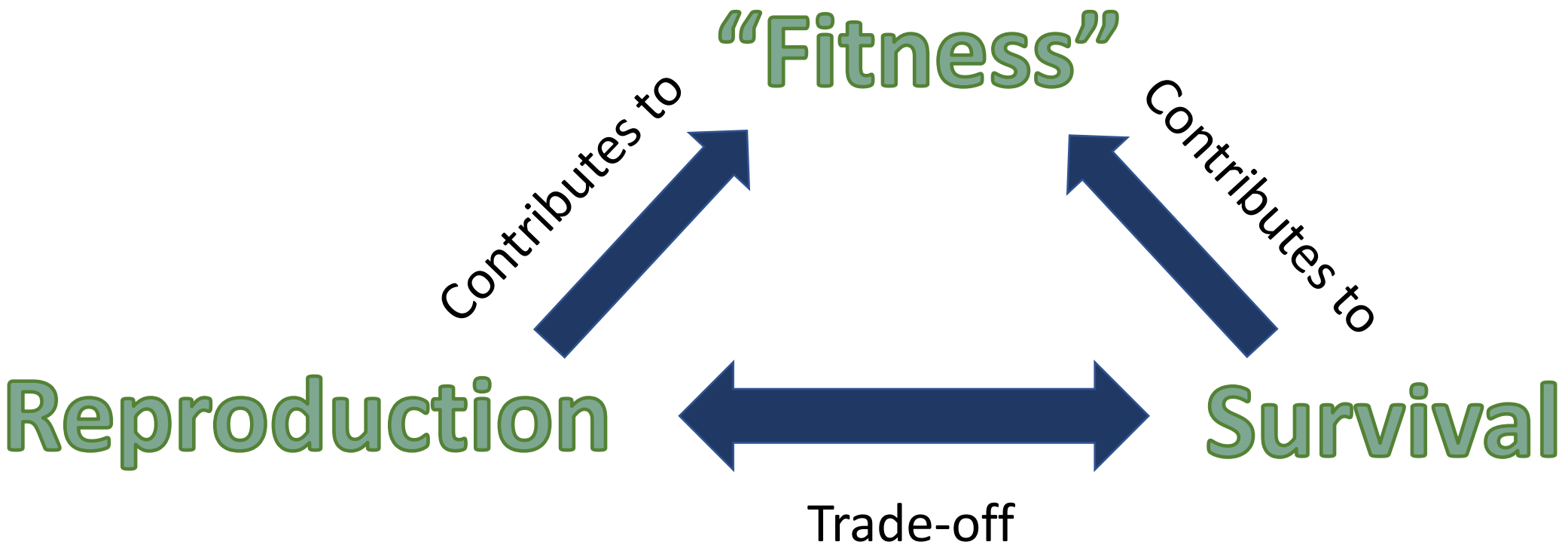
LETTER

Delayed phenology and reduced fitness associated with climate change in a wild hibernator

Jeffrey E. Lane[1,2,3], Loeske E. B. Kruuk[1], Anne Charmantier[2], Jan O. Murie[3] & F. Stephen Dobson[2,4]

Abstract Climate change will not only directly affect climatic parameters, such as temperature and precipitation, but ultimately also ecological and physiological parameters of animal species. Our study investigates the effects of variation in climatic conditions, as experienced by climate change, on hibernation physiology and energy balance of a small hibernating mammal, the hazel dormouse

What is life history?



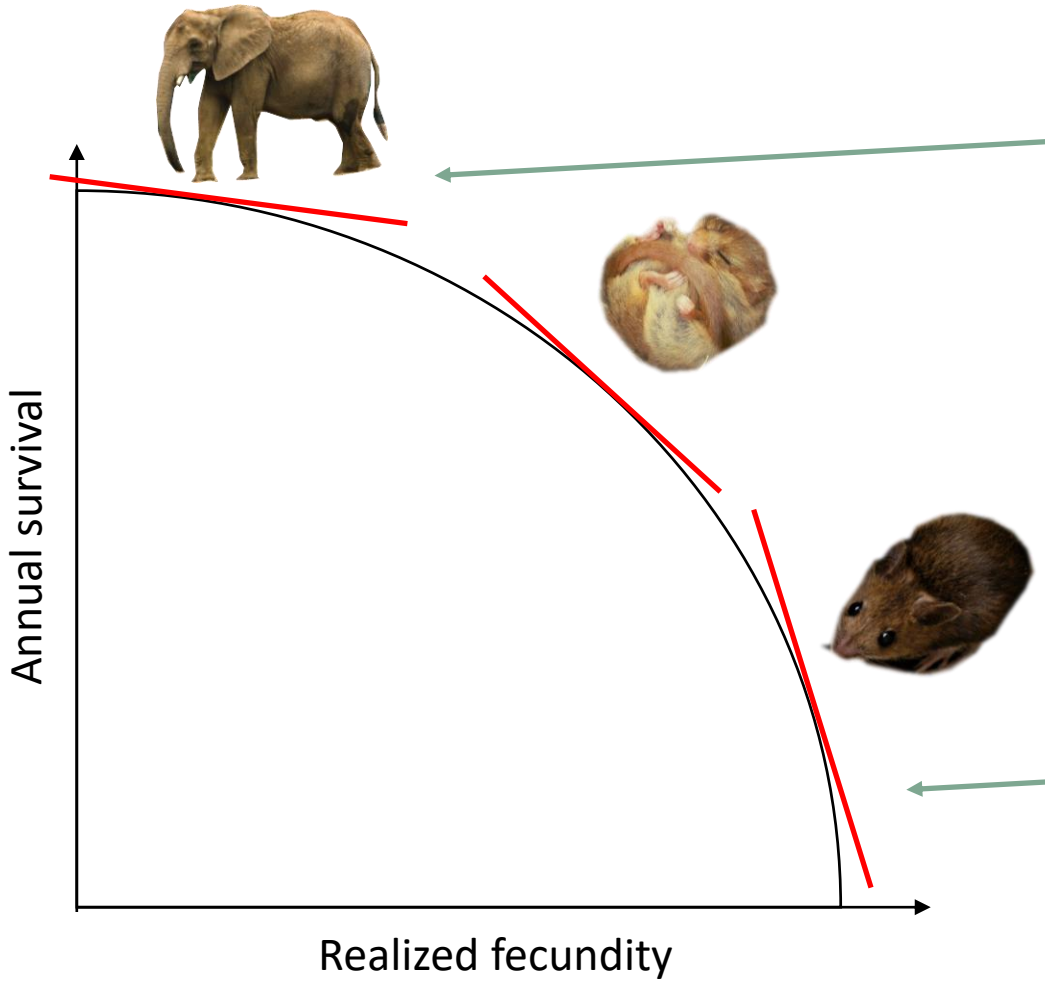
What is life history?

Units of energy

Reproduction

Survival

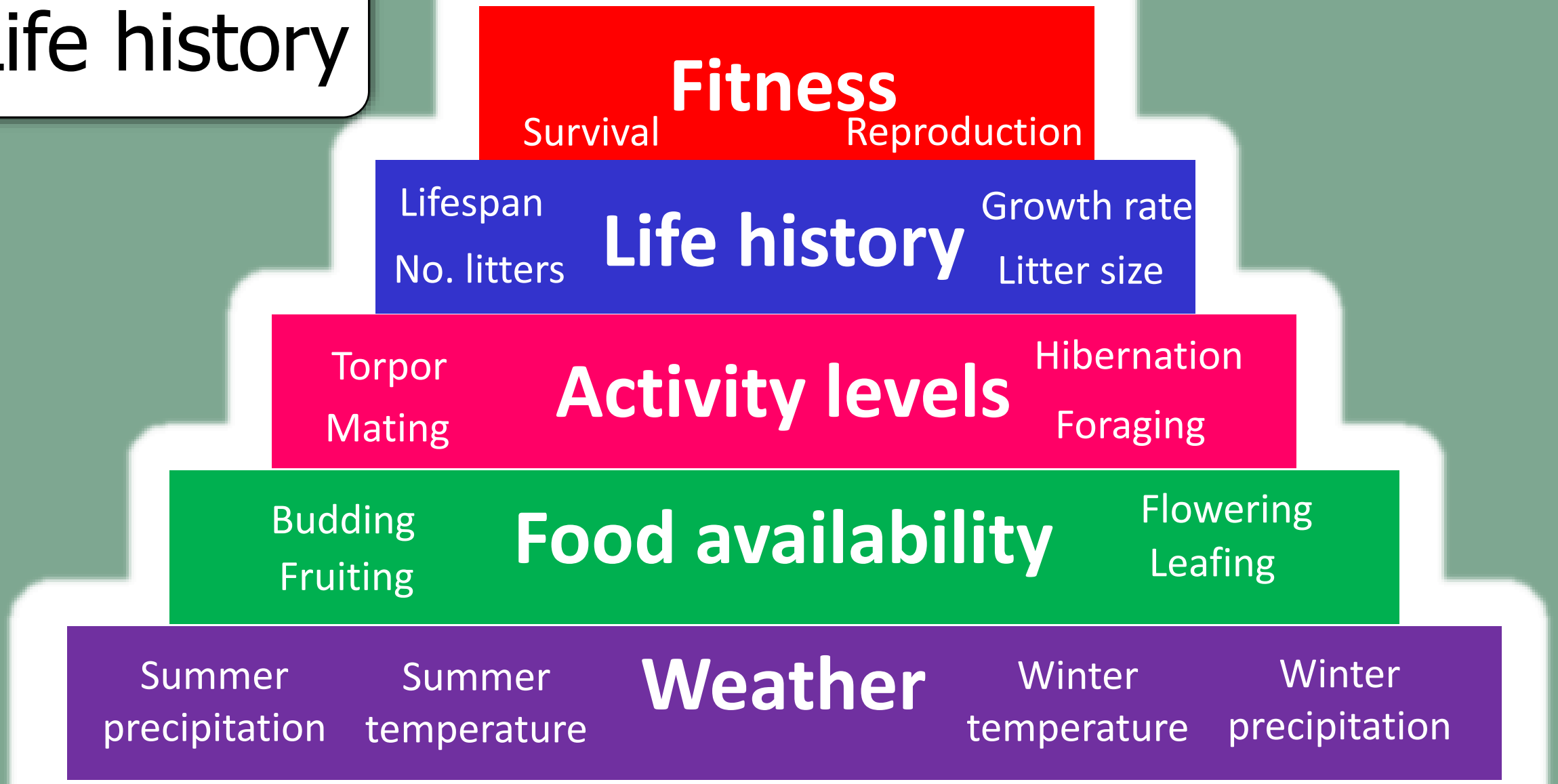
What is life history?



Shallow slope =
“slow” life history

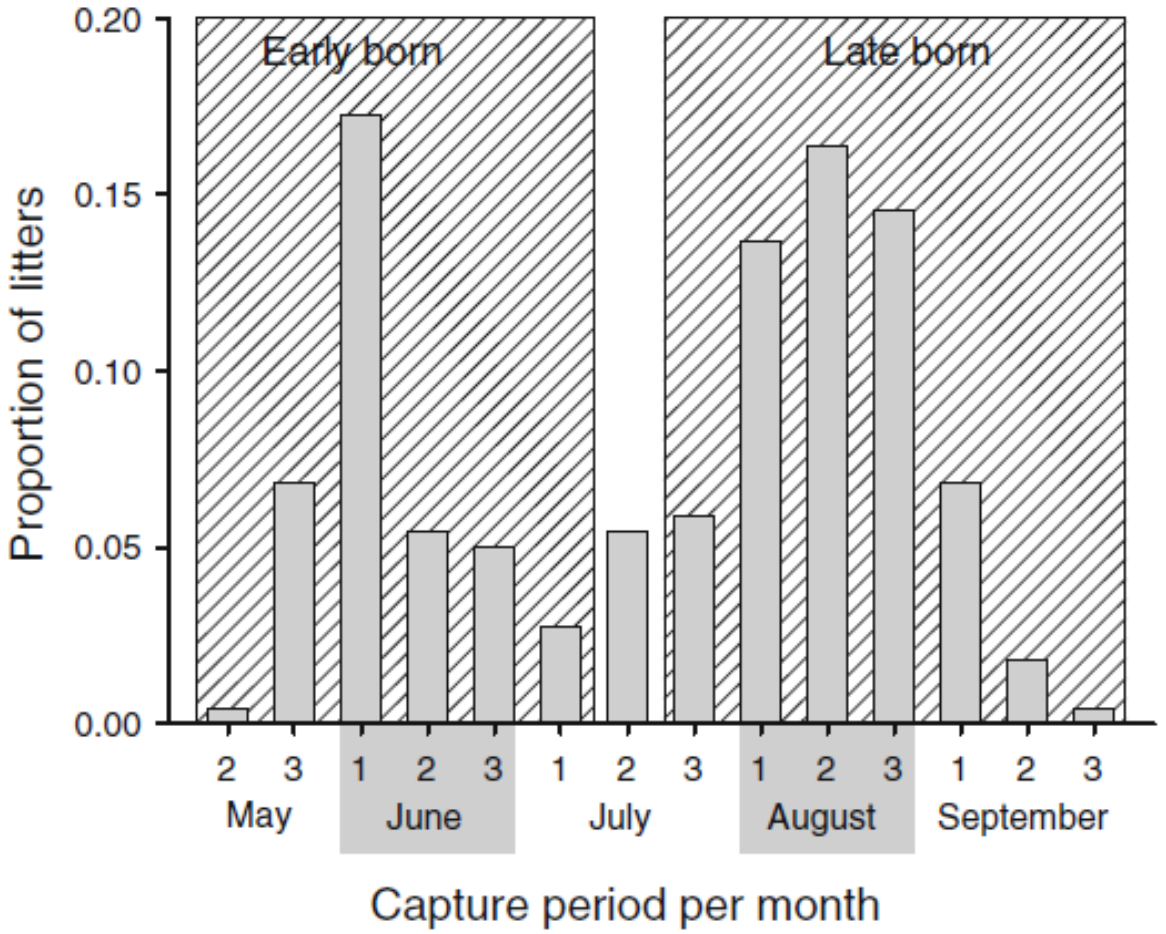
Steep slope =
“fast” life history

Life history



Bieber et al. 2012 | Pretzlaff & Dausmann 2012 | Twente & Twente 1965 | Lane et al. 2012 | Jůskaitis & Büchner 2013

Reproduction

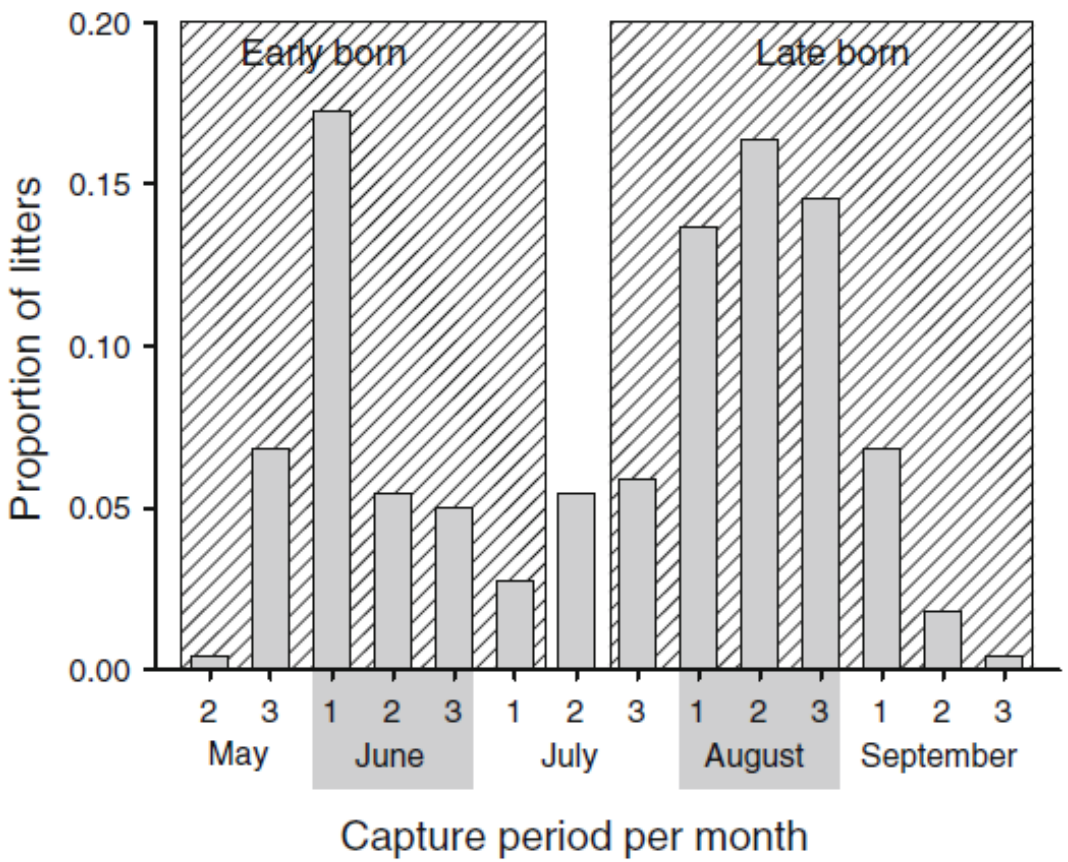


Šakiai district, Lithuania

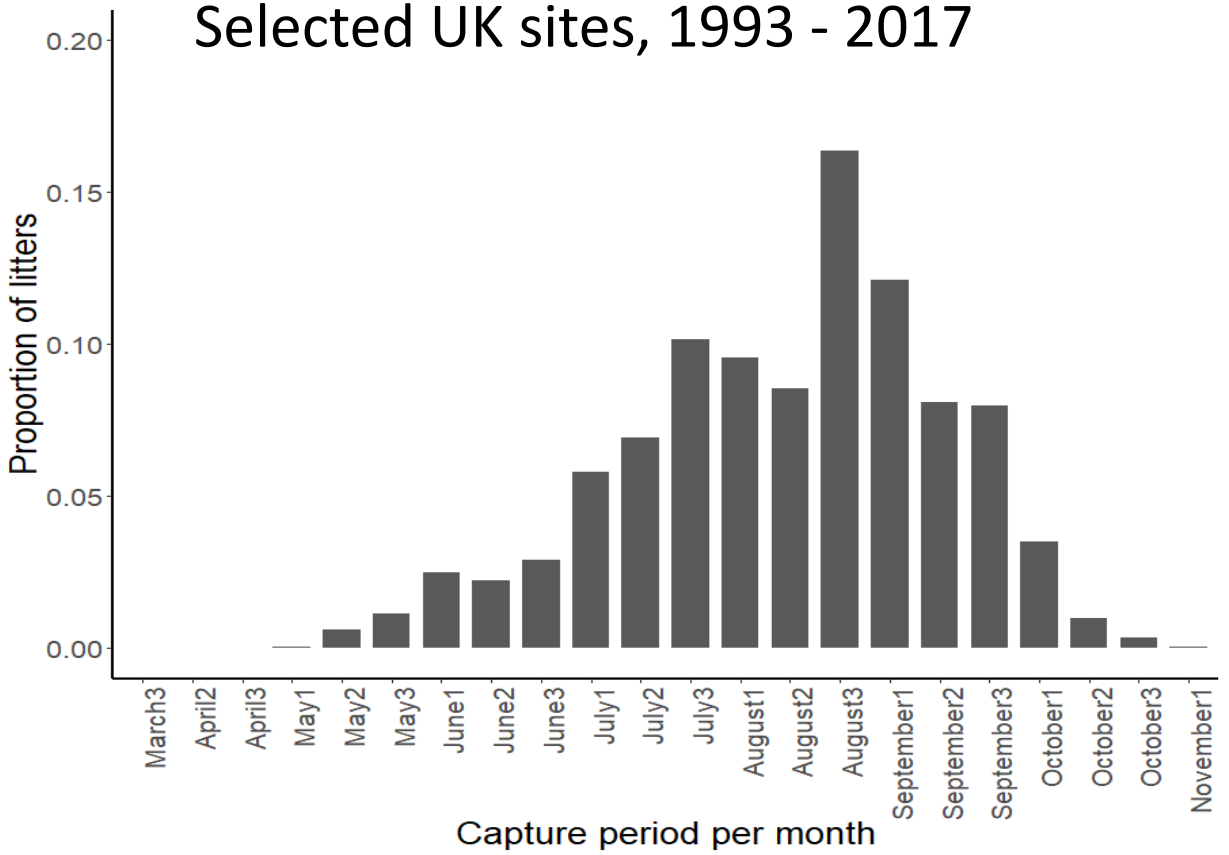
1981 - 2007

Bieber et al. 2012; Jůskaitis, 2008

Reproduction

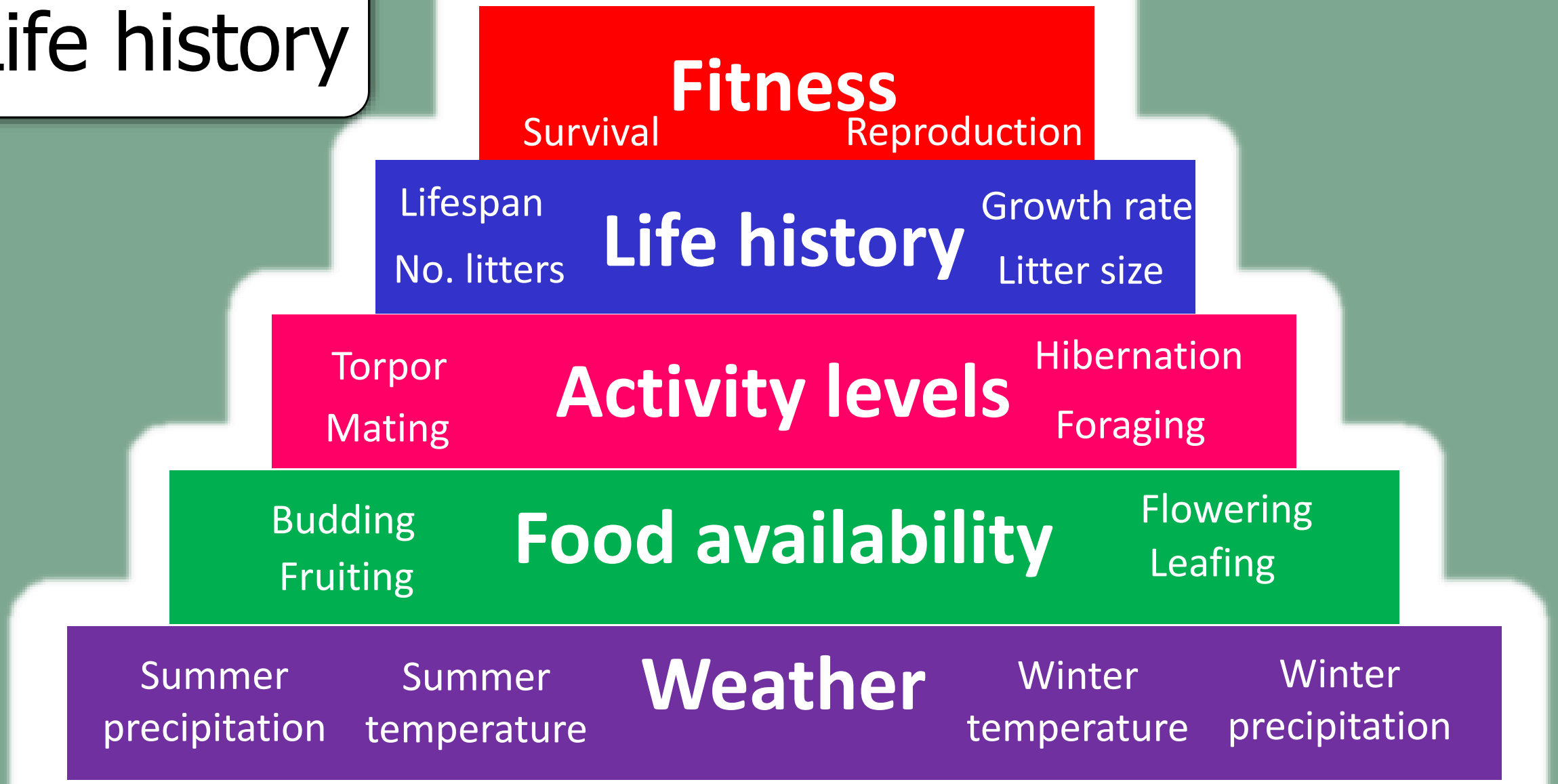


Selected UK sites, 1993 - 2017



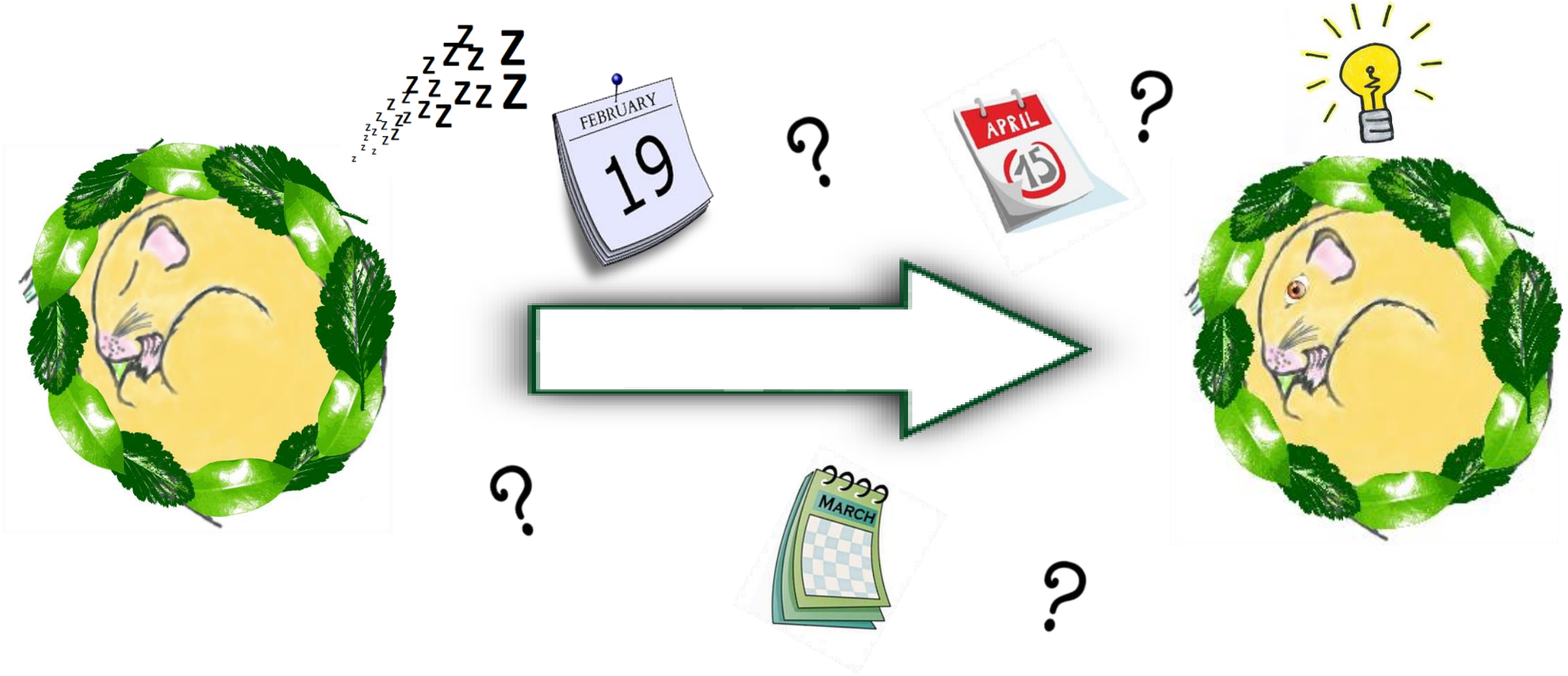
Bieber et al. 2012; Jůskaitis, 2008; NDMP data, unpublished

Life history

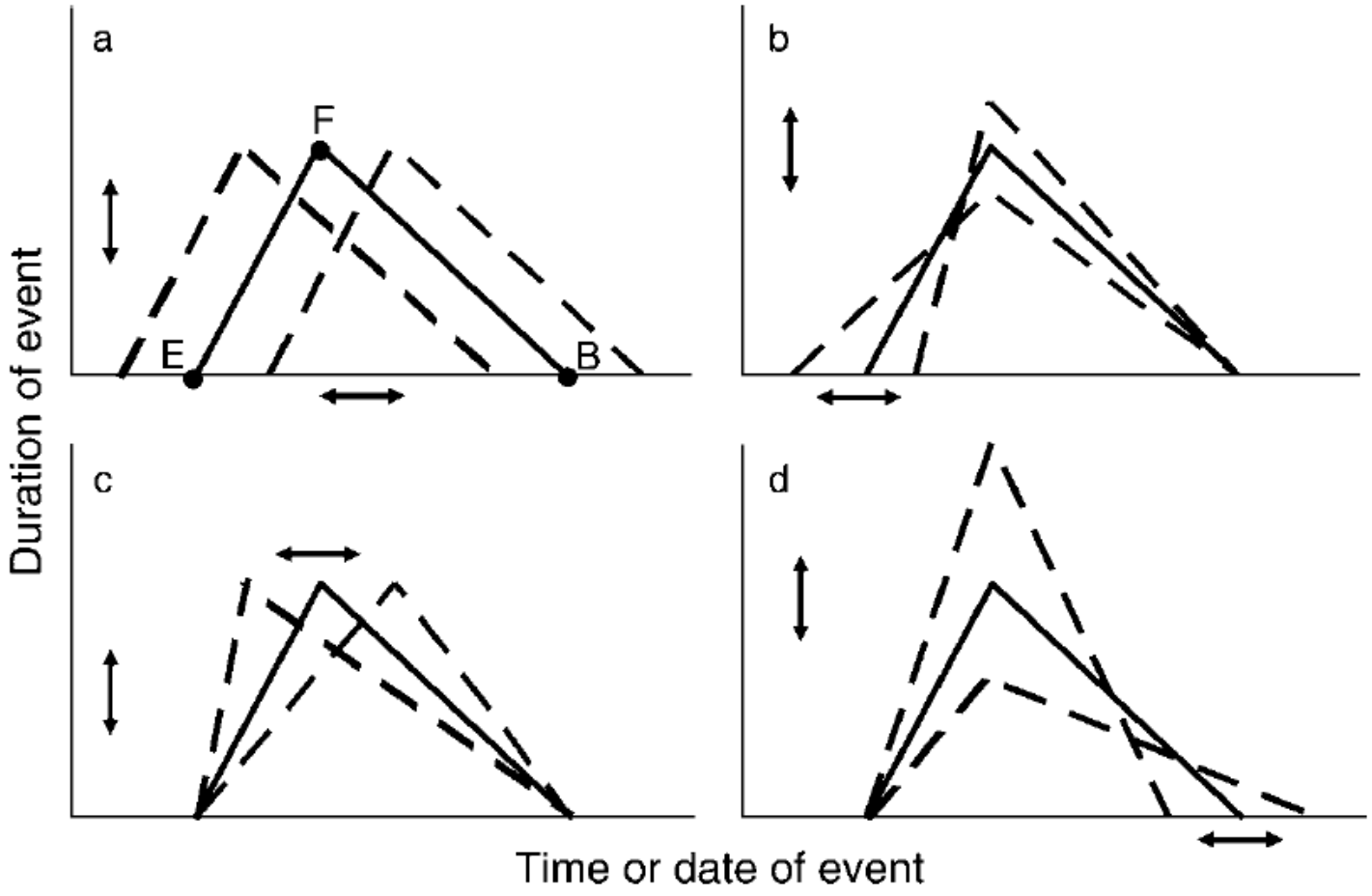


Bieber et al. 2012 | Pretzlaff & Dausmann 2012 | Twente & Twente 1965 | Lane et al. 2012 | Jůskaitis & Büchner 2013

Activity levels



Food availability



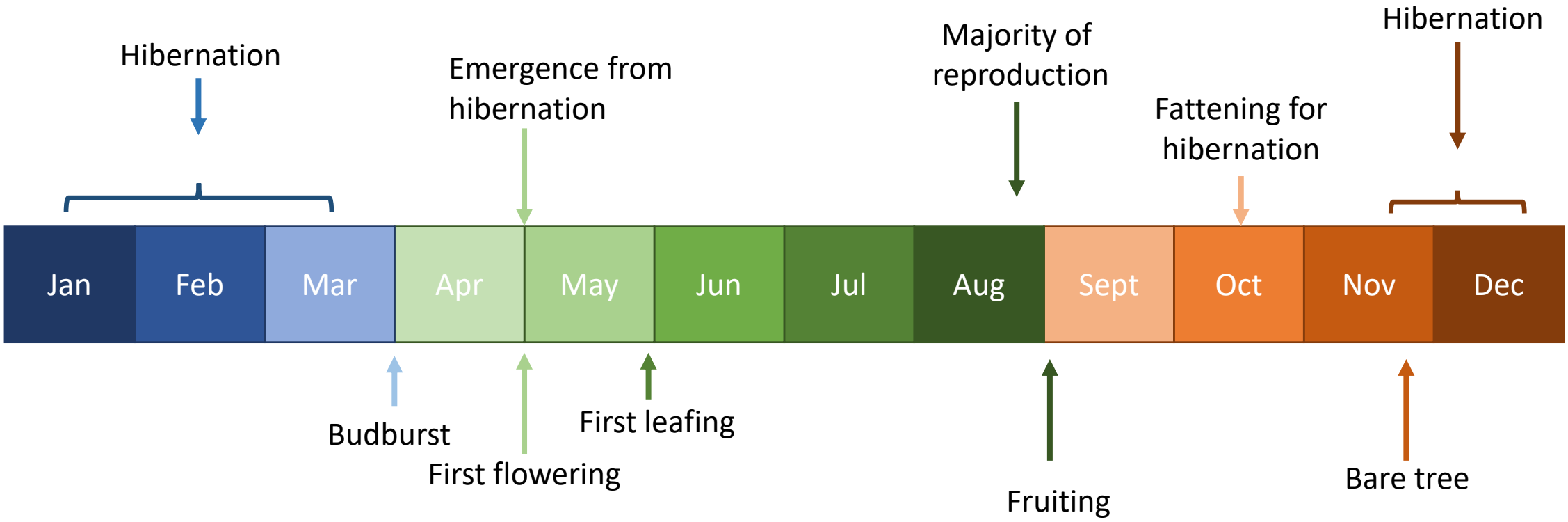
E - budding

F - leafing

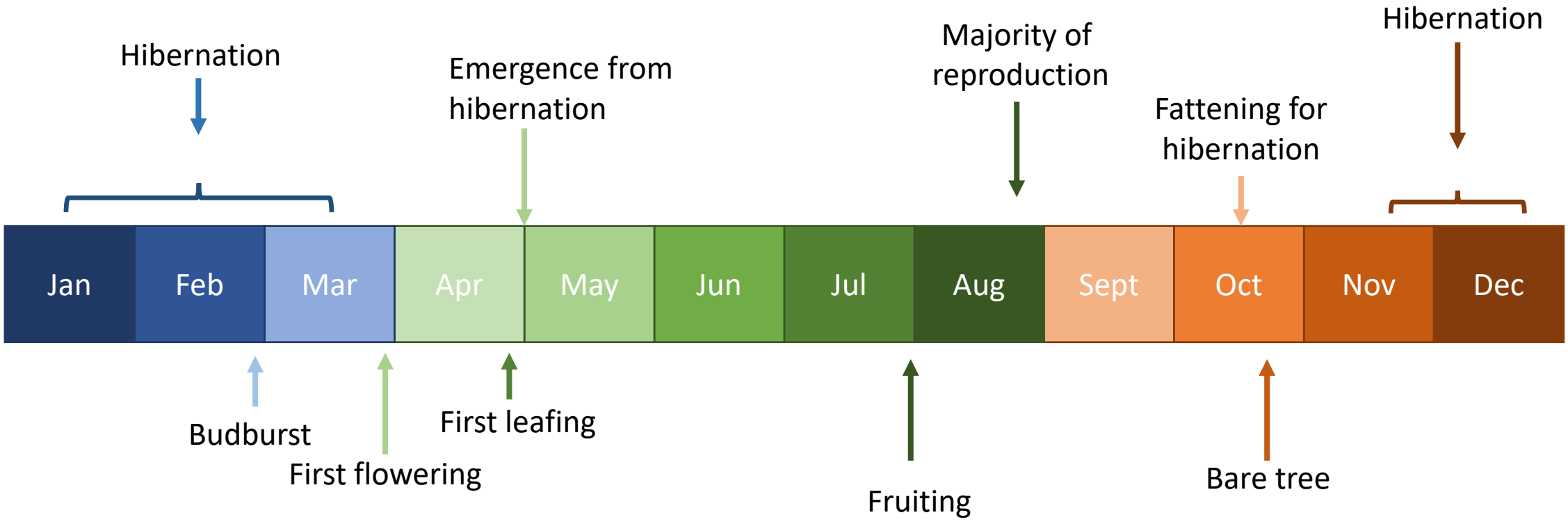
B - fruiting

Post et al. 2008

Potential effects



Potential effects



Applications

Reintroductions

Long-term conservation

Woodland management

Gerard Lacz/Animals Animals

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YOU!