

Biotic and abiotic factors affecting badger bodyweight cycles in Britain and Ireland.



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Paul Upton

What might affect bodyweight?

Sexual Dimorphism

Males heavier

Density/Mass Allometry

heavy at low density

Season

heavy in winter

Temperature (time lag)

adults lighter after
colder winters

• Bodyweight Seasons

– Cubs; no fat reserves

• Steady



– Feeding in autumn

• Increase



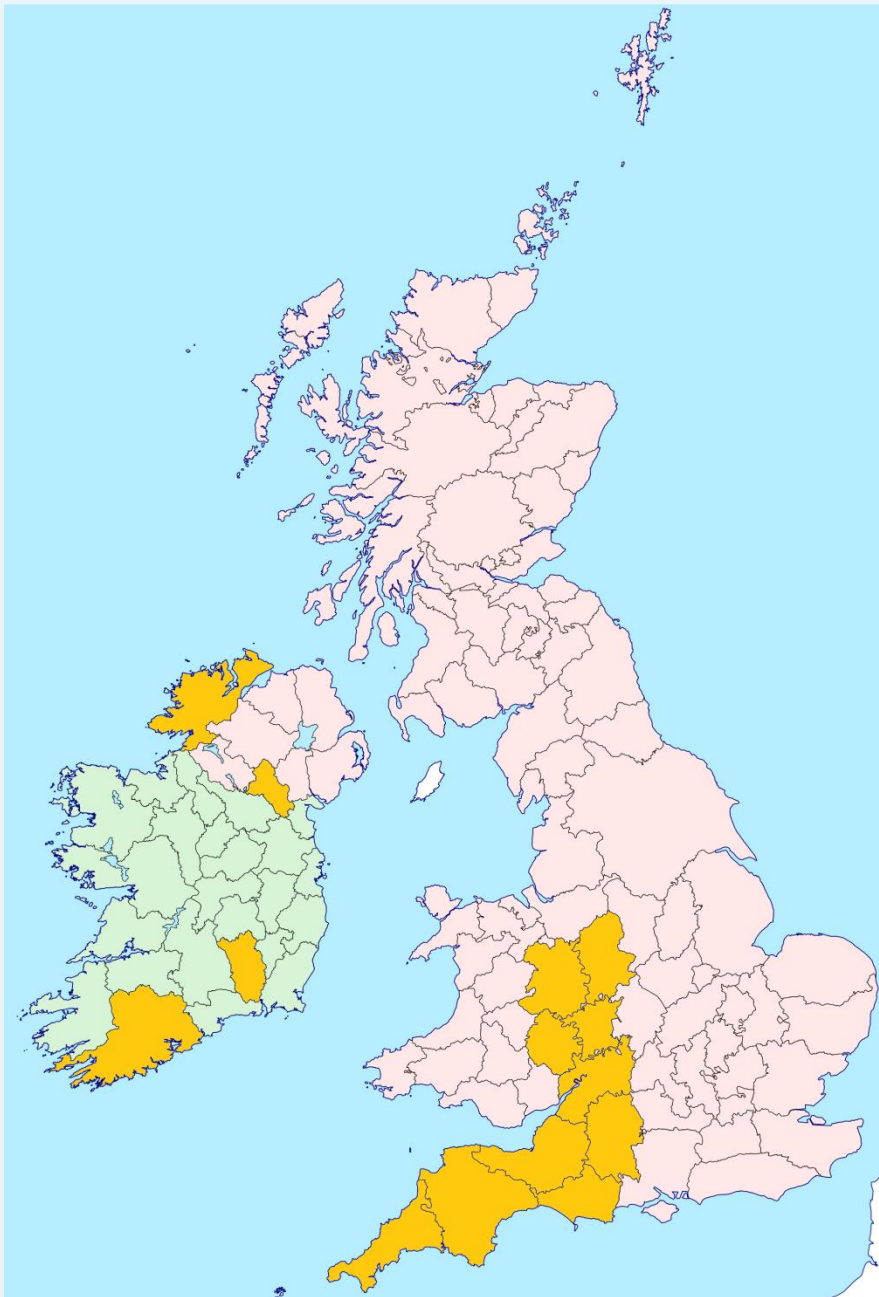
– Lethargy in winter

• Decrease





Weight Data



- RBCT (UK)
 - 8900 badgers
 - 10 counties
 - 4 years
- FAP (Ireland)
 - 2200 badgers
 - 4 counties
 - 5 years



Non-covarying Factors

Biotic

Gender



Abiotic

Country

Badger Density

~~Human Density~~

~~Day Length~~

Temperature

~~Rainfall~~

~~Altitude~~

~~Latitude~~

~~Maritime Inf.~~

Age



Results



	steady	increase	decrease
gender	***	***	***
island	***	NS	*
gender:isl	NS	**	***
badger density	NS	++	---
temperature	---	---	+++

English badgers heavier than Irish badgers

Day Length
 Rainfall
 Altitude
 Latitude
 Maritime Inf.

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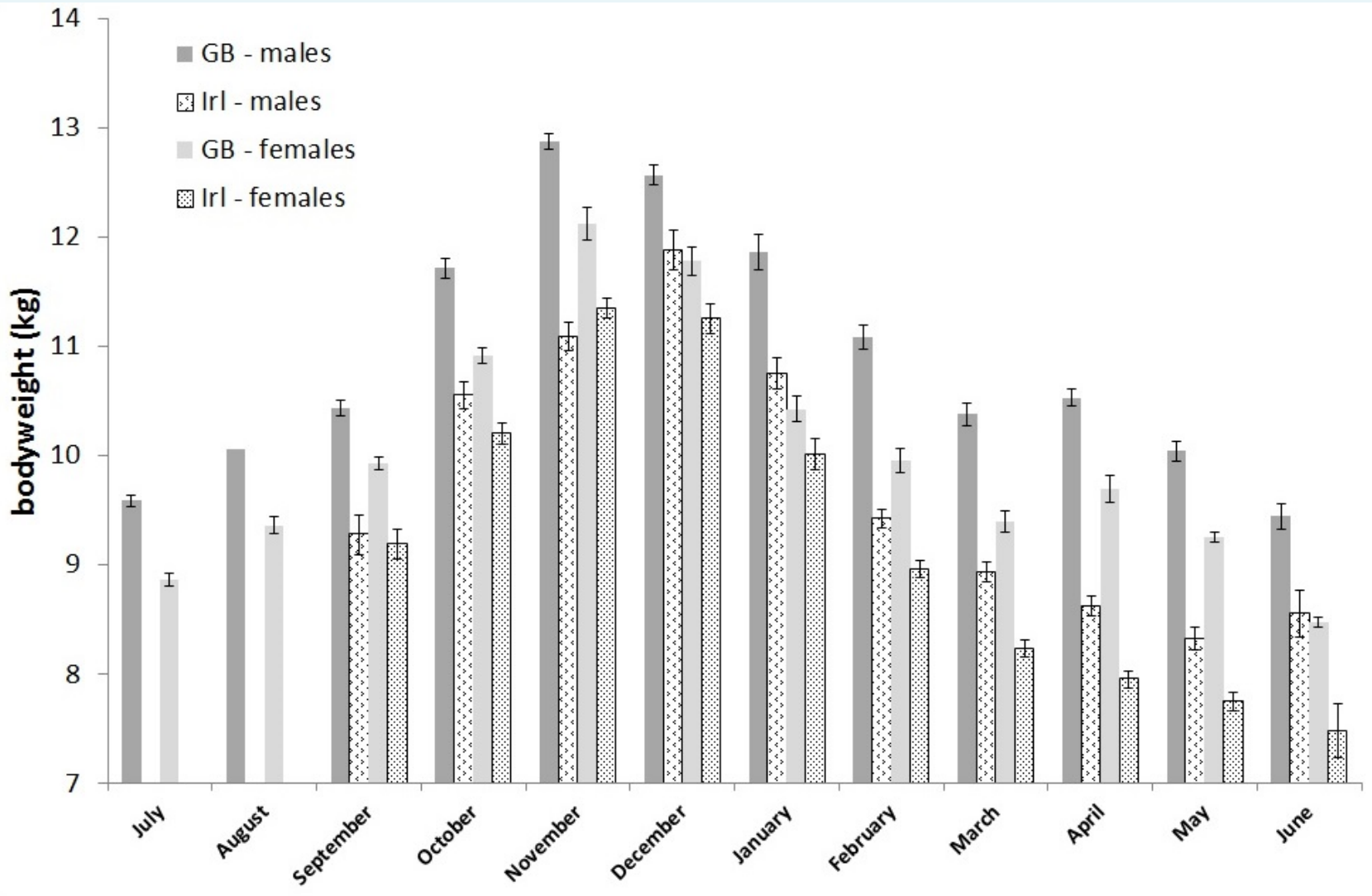
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Seasonal Breakdown



	steady	increase	decrease
start	April	September	December
end	August	November	March
N	4248	4084	2769

Seasonal Pattern



Timing

- FAP - September 1997 to June 2002
- RBCT – July 2002 to December 2006