

Johann, F., Handschuh, M., Linderoth, P., Heurich, M., Dormann, C. F. and Arnold, J. 2020. Variability of daily space use in wild boar *Sus scrofa*. - Wildlife Biology 2020: wlb.00609

Appendix 1

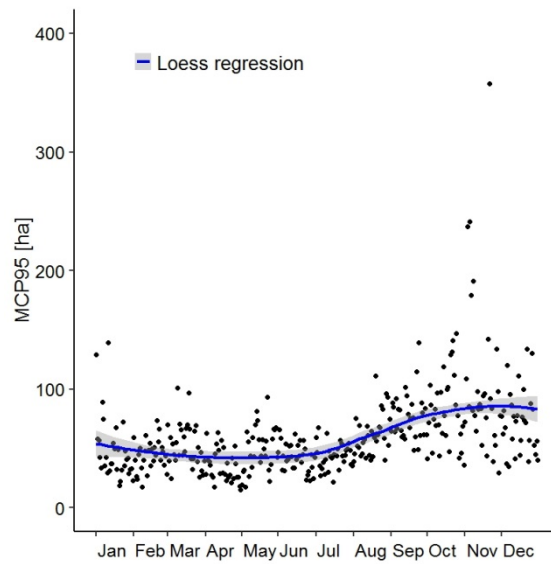


Figure A1. Mean daily MCP95 for each day of the year; 365 daily averages over wild boar individuals of all social classes and a Loess smoother with span = 0.8, confidence interval = 0.95.

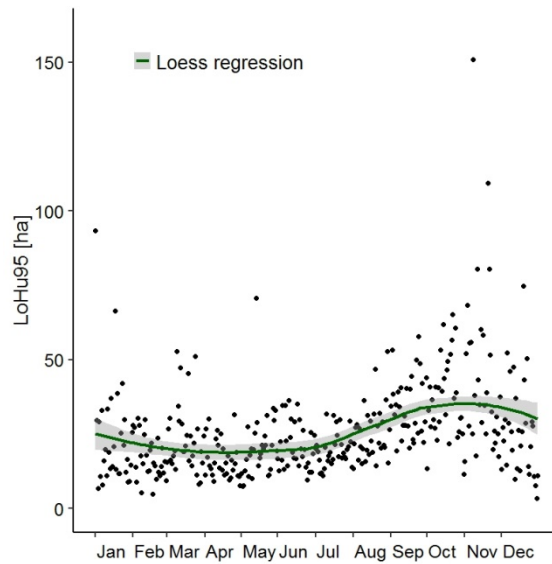


Figure A2. Mean daily LoHu95 for each day of the year; 365 daily averages over wild boar individuals of all social classes and a Loess smoother with span = 0.8, confidence interval = 0.95.

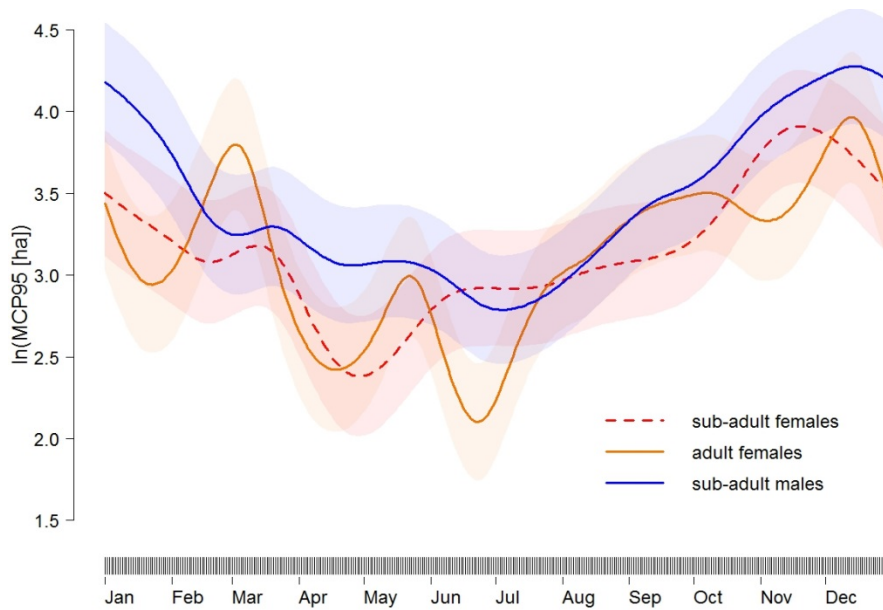


Figure A3. Estimated daily range $\ln(\text{MCP95 [ha]})$ depending on day of the year and social class; other continuous predictors set to the median: proportion forest = 0.8, proportion agriculture = 0.1, daily mean air temperature = 10.2 C°, elevation = 657 m, $\ln(\text{precipitation} + 1 [\text{mm}]) = 0.4$, snow height = 0 mm, moon brightness = 0.02; random effects cancelled; model M1; reference degrees of freedom for DoY-splines = 22; shades indicate one standard error; data of piglets and adult males were omitted in the models because of low sample size.

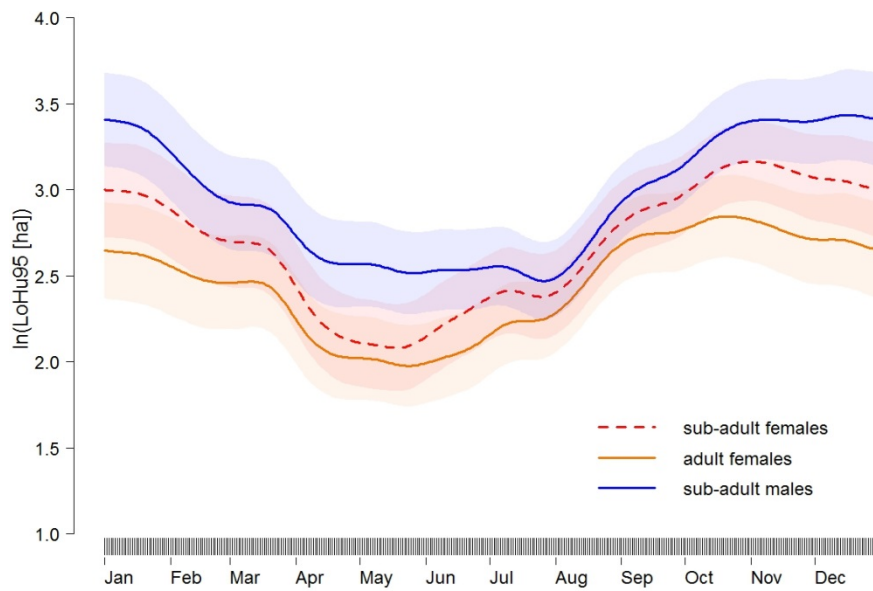


Figure A4. Estimated daily range $\ln(\text{LoHu95 [ha]})$ depending on day of the year and social class; other continuous predictors set to the median: proportion forest = 0.8, proportion agriculture = 0.1, daily mean air temperature = 10.2 C°, elevation = 657 m, $\ln(\text{precipitation} + 1 [\text{mm}]) = 0.4$, snow height = 0 mm, moon brightness = 0.02; random effects cancelled; model M1; reference degrees of freedom for DoY-splines = 22; shades indicate one standard error; data of piglets and adult males were omitted in the models because of low sample size.

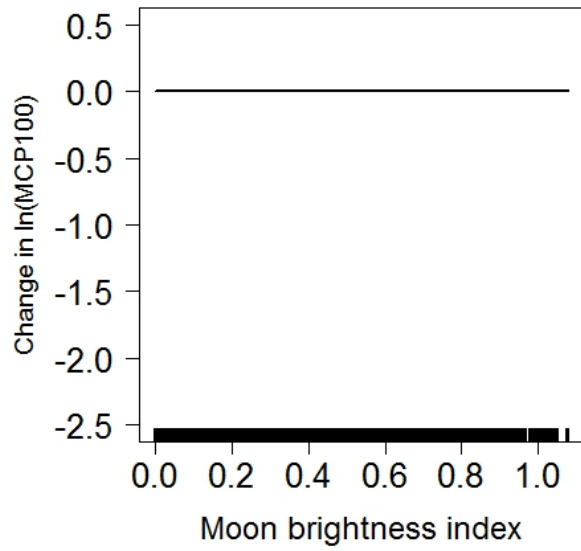
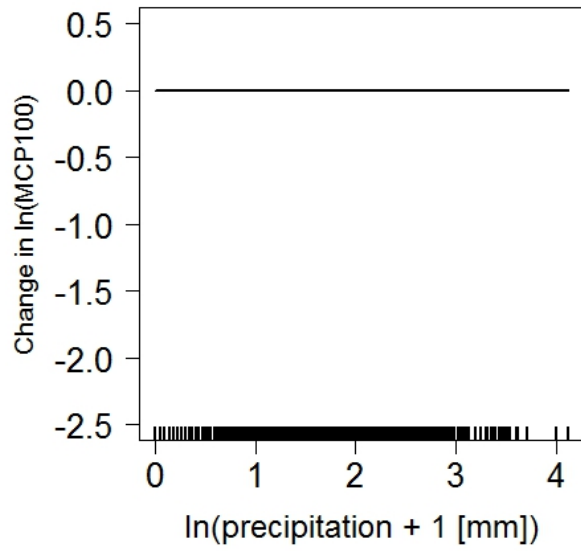


Figure A5. Partial effects of $\ln(\text{precipitation})$ and of moon brightness index on $\ln(\text{MCP100})$; model M1.

Table A1. Comparison of key figures of daily ranges resulting from different home range estimation methods, all social classes, $N_{\text{daily ranges}} = 6716$; SD = standard deviation

Method	MCP100 [ha]	MCP95 [ha]	LoHu95 [ha]
Mean (SD)	69.7 (124.3)	58.6 (116.1)	25.6 (54.3)
Median	36.1	28.0	8.6
Minimum	0.004	0.002	0.002
Maximum	4542.2	4535.8	1220.1

Table A2. Parametric coefficients and approximate significance of smooth terms (s, ti) of model M1 for $\ln(\text{MCP100})$, DoY = day of the year; code: *** < 0.001, ** < 0.01, * < 0.05. Note that social class, DoY, proportion of locations in forests and proportion of locations on agricultural lands were included in the model by more than one term. For directions of effects consider Fig. 4 to 9.

Parametric coefficients	Estimate	SE	T-value	p	Code
(intercept)	2.983	0.230	12.984	< 0.001	***
Adult females	-0.036	0.097	-0.372	0.710	
Sub-adult males	0.286	0.176	1.623	0.105	
Smooth terms	Edf	Ref.df	F	p	Code
s(DoY: sub-adult females)	7.303	22	6.268	< 0.001	***
s(DoY: sub-adult males)	4.217	22	4.498	< 0.001	***
s(DoY: adult females)	12.836	22	11.292	< 0.001	***
ti(proportion forest)	7.143	9	26.771	< 0.001	***
ti(proportion agriculture)	6.448	9	49.730	< 0.001	***
ti(DoY × proportion forest)	23.841	198	0.390	< 0.001	***
ti(DoY × proportion agriculture)	29.706	196	0.723	< 0.001	***
s(air temperature)	3.859	23	0.799	< 0.001	***
s(snow height)	2.865	23	2.823	< 0.001	***

s(ln(daily precipitation))	0.003	23	0.000	0.638	
s(elevation)	12.069	23	26.284	< 0.001	***
s(moonlight)	0.010	23	0.000	0.520	
s(wild boar ID)	31.715	41	9.839	< 0.001	***
s(number of locations)	0.746	1	4.266	0.027	*
s(year)	1.836	3	25.336	0.008	**
s(region)	0.006	2	0.004	0.306	

Table A3. ID, collaring date, age class (some animals have been tracked over more than one age class), sex and region of the wild boars which are represented in the models

ID	Long-ID	Collaring date	Age class		Sex	Region
			1	2		
A	ALB_7092	2013-03-27	sub-adult		male	Swabian Alps
B	ALB_7095	2014-06-03	sub-adult	adult	female	Swabian Alps
C	ALB_7098	2014-04-08	adult		female	Swabian Alps
D	ALB_7100	2014-04-10	sub-adult	adult	female	Swabian Alps
E	ALB_7193	2014-06-03	adult		female	Swabian Alps
F	ALB_7992	2013-01-23	sub-adult		female	Swabian Alps
G	ALB_7993	2013-01-23	sub-adult		female	Swabian Alps
H	ALB_7994	2013-01-23	adult		female	Swabian Alps
I	ALB_7995	2013-01-23	sub-adult		male	Swabian Alps
J	ALB_7997	2013-01-23	sub-adult	adult	female	Swabian Alps
K	ALB_M13303	2015-05-28	sub-adult		male	Swabian Alps
L	ALB_M13309	2015-05-28	sub-adult		male	Swabian Alps
M	ALB_P8597	2015-07-10	sub-adult		female	Swabian Alps
N	ALB_P8599	2015-07-10	sub-adult		female	Swabian Alps
O	ALB_P9400	2015-06-28	adult		female	Swabian Alps
P	ALB_S7047	2014-02-14	sub-adult		male	Swabian Alps
Q	ALB_S7099	2014-09-24	sub-adult	adult	female	Swabian Alps
R	ALB_T7154	2014-11-19	adult		female	Swabian Alps
S	ALB_T7158	2014-11-19	sub-adult	adult	female	Swabian Alps
T	ALB_T7191	2015-05-28	adult		female	Swabian Alps

U	ALB_T7195	2015-02-18	sub-adult		female	Swabian Alps
V	ALB_T7197_S7048	2014-06-03	sub-adult	adult	female	Swabian Alps
W	ALT_1482	2012-06-13	sub-adult		male	Altdorf Forest
X	ALT_7199	2012-04-25	sub-adult		female	Altdorf Forest
Y	ALT_9390	2012-04-24	sub-adult		male	Altdorf Forest
Z	ALT_S7045	2013-05-23	sub-adult		female	Altdorf Forest
a	ALT_T7151	2012-10-30	sub-adult		male	Altdorf Forest
b	ALT_T7192	2013-05-23	sub-adult		male	Altdorf Forest
c	ALT_V1474	2012-10-30	sub-adult		female	Altdorf Forest
d	ALT_V1475	2012-10-30	sub-adult		female	Altdorf Forest
e	WUR_7998	2013-02-14	sub-adult		male	Wurzach Marsh
f	WUR_8000	2013-05-08	sub-adult		male	Wurzach Marsh
g	WUR_keine	2013-01-18	sub-adult		male	Wurzach Marsh
h	WUR_M13305	2014-03-26	sub-adult		female	Wurzach Marsh
i	WUR_P8600	2015-07-01	sub-adult		male	Wurzach Marsh
j	WUR_P9386	2014-01-29	sub-adult	adult	female	Wurzach Marsh
k	WUR_P9387	2015-01-15	adult		female	Wurzach Marsh
l	WUR_Q7999	2013-02-14	sub-adult		male	Wurzach Marsh
m	WUR_S7096	2014-10-15	sub-adult	adult	female	Wurzach Marsh
n	WUR_T7153	2013-01-18	sub-adult	adult	female	Wurzach Marsh
o	WUR_T7157	2014-07-08	sub-adult		male	Wurzach Marsh
p	WUR_T7159	2014-07-08	adult		female	Wurzach Marsh
q	WUR_T7196	2015-01-15	sub-adult		male	Wurzach Marsh
