

# Malaise Traps Program

Peter Haase & Petr Zajicek



Joint project of LTER-D  
and Nationale  
Naturlandschaften



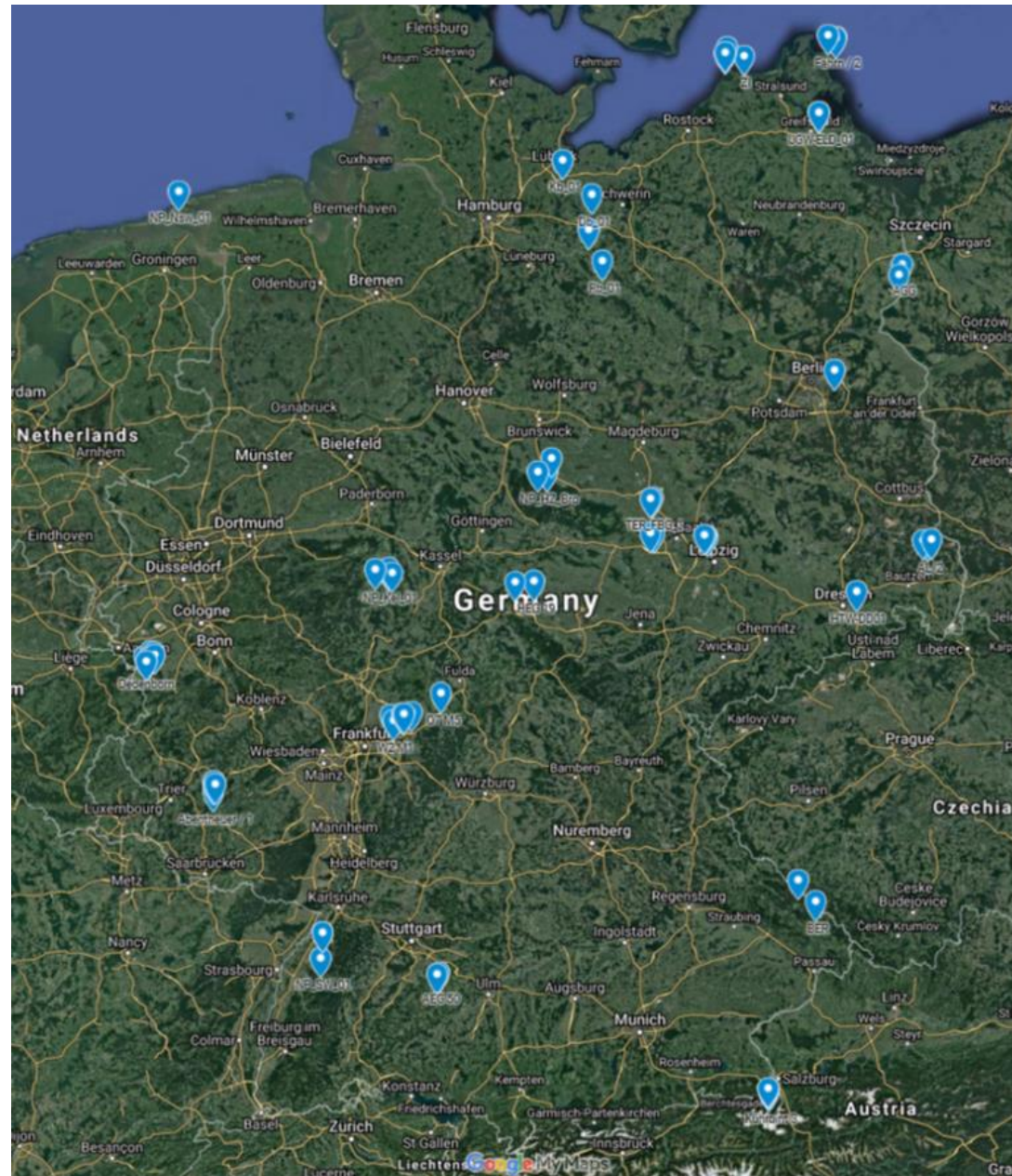
**24 sites**

63 traps

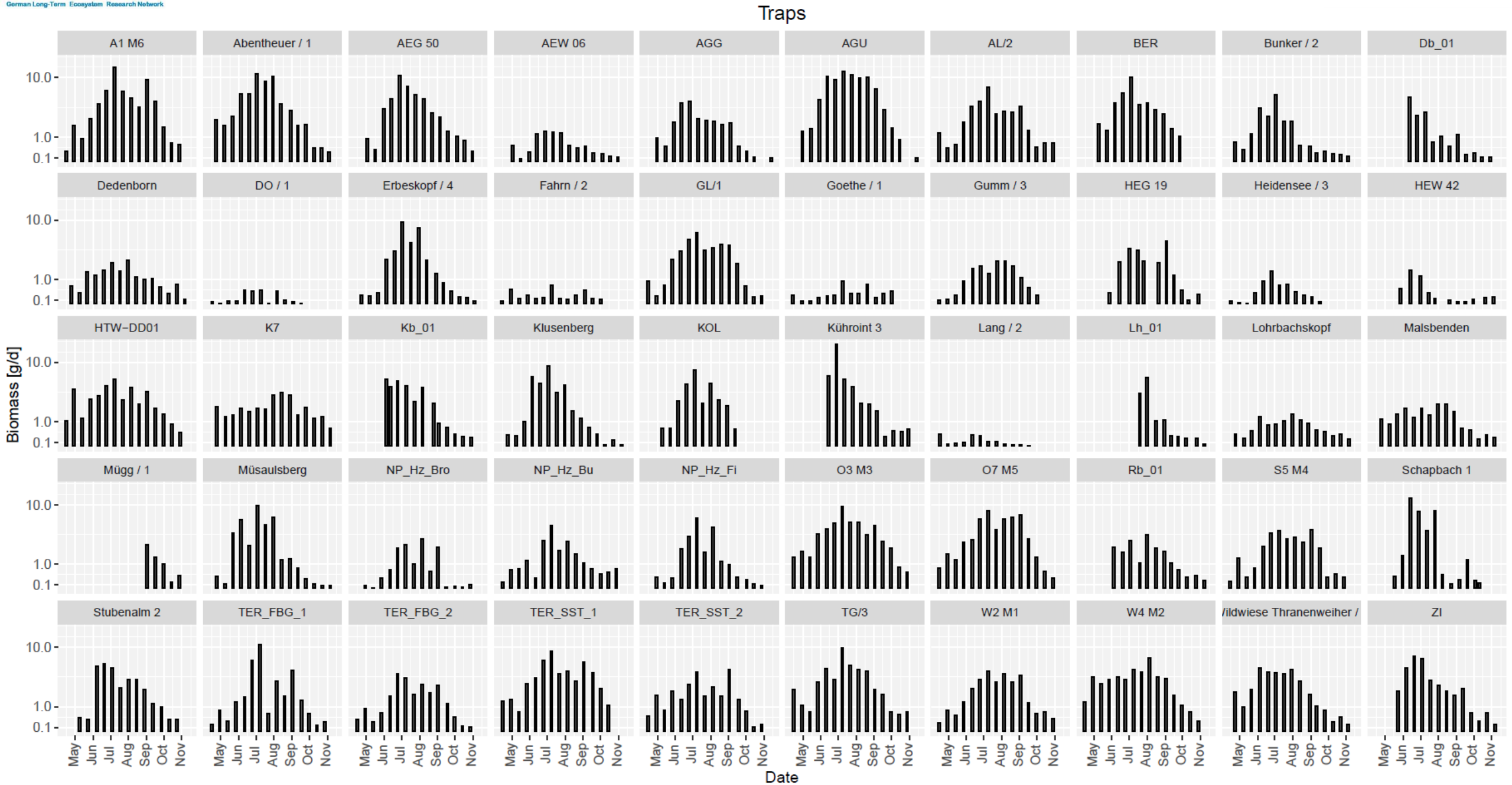
Ca. 850 samples

April – October

Bi-weekly sampling



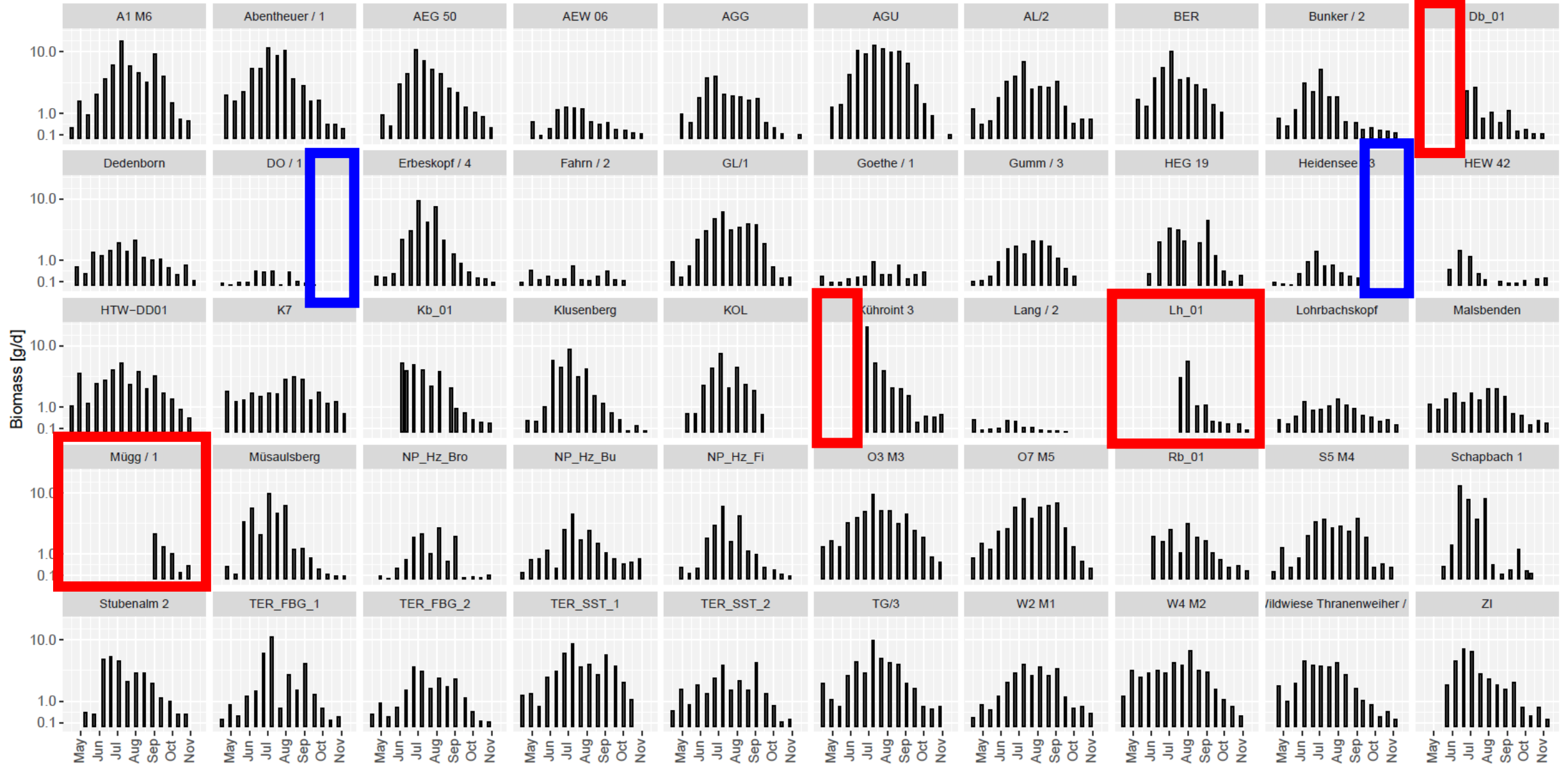
# Depletions of 50 traps during the sampling season 2019



# Unfortunate challenges



Traps



Too late start of sampling -- too early end of sampling

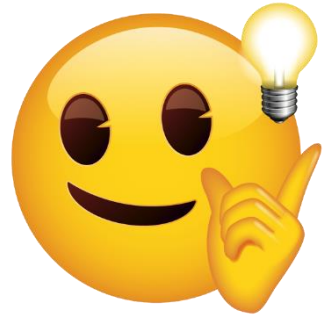
→ **Start traps at the 1st of April**

→ **End traps at the 31st of October**

*(earliest last depletion of the year: 18th of September)*

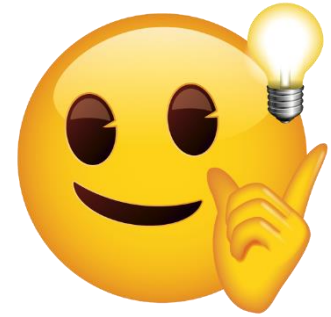
→ **Emty traps each 14 days – CONTINUOUSLY!**

*(actual range: 7-29 days)*



April '20	May '20	June '20	July '20	August '20	September '20	Oktober '20
01 Apr	01 May	01 Jun	01 Jul	01 Aug	01 Sep	01 Oct
02 Apr	02 May	02 Jun	02 Jul	02 Aug	02 Sep	02 Oct
03 Apr	03 May	03 Jun	03 Jul	03 Aug	03 Sep	03 Oct
04 Apr	04 May	04 Jun	04 Jul	04 Aug	04 Sep	04 Oct
05 Apr	05 May	05 Jun	05 Jul	05 Aug	05 Sep	05 Oct
06 Apr	06 May	06 Jun	06 Jul	06 Aug	06 Sep	06 Oct
07 Apr	07 May	07 Jun	07 Jul	07 Aug	07 Sep	07 Oct
08 Apr	08 May	08 Jun	08 Jul	08 Aug	08 Sep	08 Oct
09 Apr	09 May	09 Jun	09 Jul	09 Aug	09 Sep	09 Oct
10 Apr	10 May	10 Jun	10 Jul	10 Aug	10 Sep	10 Oct
11 Apr	11 May	11 Jun	11 Jul	11 Aug	11 Sep	11 Oct
12 Apr	12 May	12 Jun	12 Jul	12 Aug	12 Sep	12 Oct
13 Apr	13 May	13 Jun	13 Jul	13 Aug	13 Sep	13 Oct
14 Apr	14 May	14 Jun	14 Jul	14 Aug	14 Sep	14 Oct
15 Apr	15 May	15 Jun	15 Jul	15 Aug	15 Sep	15 Oct
16 Apr	16 May	16 Jun	16 Jul	16 Aug	16 Sep	16 Oct
17 Apr	17 May	17 Jun	17 Jul	17 Aug	17 Sep	17 Oct
18 Apr	18 May	18 Jun	18 Jul	18 Aug	18 Sep	18 Oct
19 Apr	19 May	19 Jun	19 Jul	19 Aug	19 Sep	19 Oct
20 Apr	20 May	20 Jun	20 Jul	20 Aug	20 Sep	20 Oct
21 Apr	21 May	21 Jun	21 Jul	21 Aug	21 Sep	21 Oct
22 Apr	22 May	22 Jun	22 Jul	22 Aug	22 Sep	22 Oct
23 Apr	23 May	23 Jun	23 Jul	23 Aug	23 Sep	23 Oct
24 Apr	24 May	24 Jun	24 Jul	24 Aug	24 Sep	24 Oct
25 Apr	25 May	25 Jun	25 Jul	25 Aug	25 Sep	25 Oct
26 Apr	26 May	26 Jun	26 Jul	26 Aug	26 Sep	26 Oct
27 Apr	27 May	27 Jun	27 Jul	27 Aug	27 Sep	27 Oct
28 Apr	28 May	28 Jun	28 Jul	28 Aug	28 Sep	28 Oct
29 Apr	29 May	29 Jun	29 Jul	29 Aug	29 Sep	29 Oct
30 Apr	30 May	30 Jun	30 Jul	30 Aug	30 Sep	30 Oct
31 Apr	31 May	31 Jun	31 Jul	31 Aug	31 Sep	31 Oct

# PLEASE AVOID UNFORTUNATE CHALLENGES



→ Provide **identical sample informations / descriptions**  
at sample-labels and in the online-formular

→ Double check whether **all information** is provided in **all formulars**  
(e.g., exposure & depletion date)



→ Use a **pencil** to label field samples! (do NOT use a pen!)



→ PRESERVE sample in **MIN. (!) 80% of alcohol**  
(otherwise issues with metabarcoding!)

→ Don't fill bottles with more than 0.7 Liter of **Ethanol**



→ Report if **bottle** was **full with insects**

(so that no additional insects were captured)

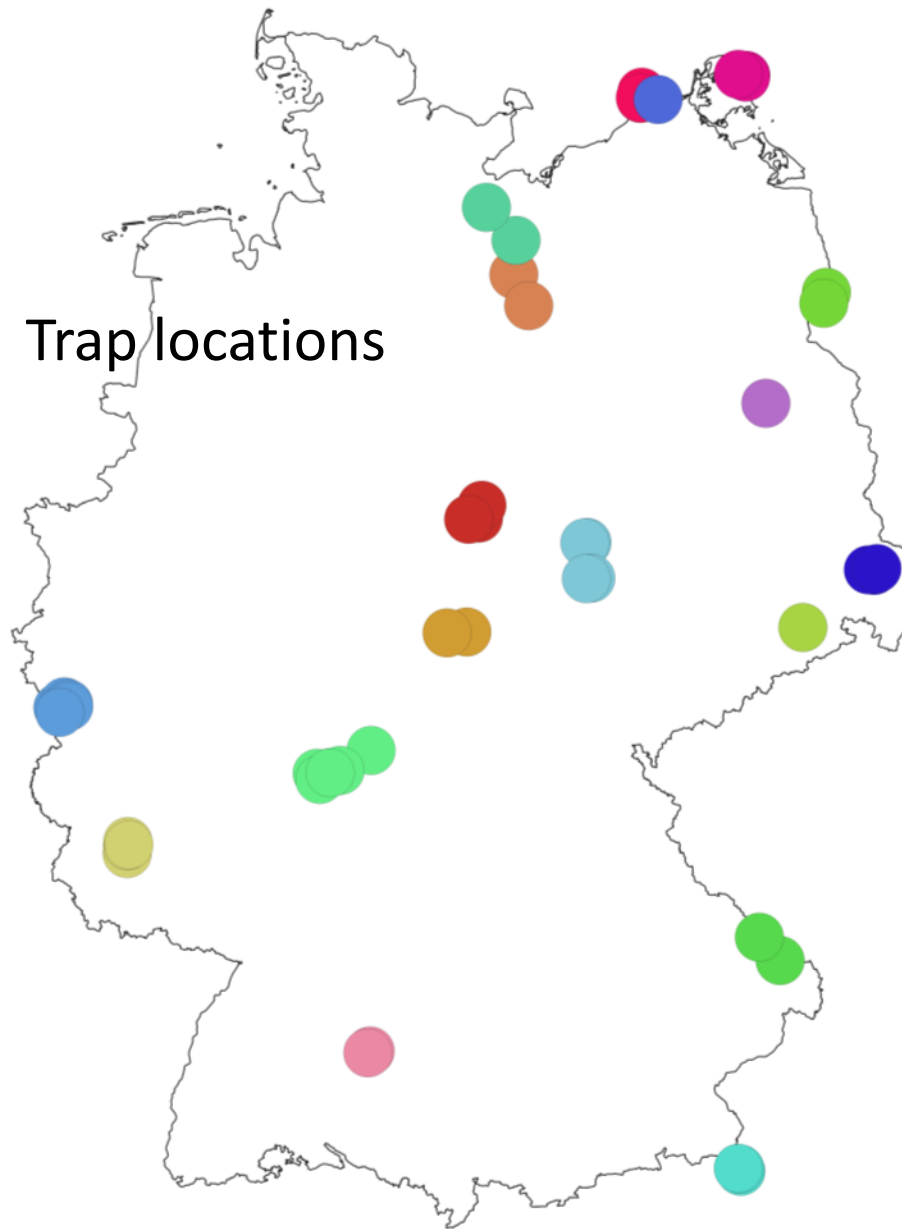


676 samples of

50 traps at

18 sites

Total / partial  
 emptying failures: 4 / 11

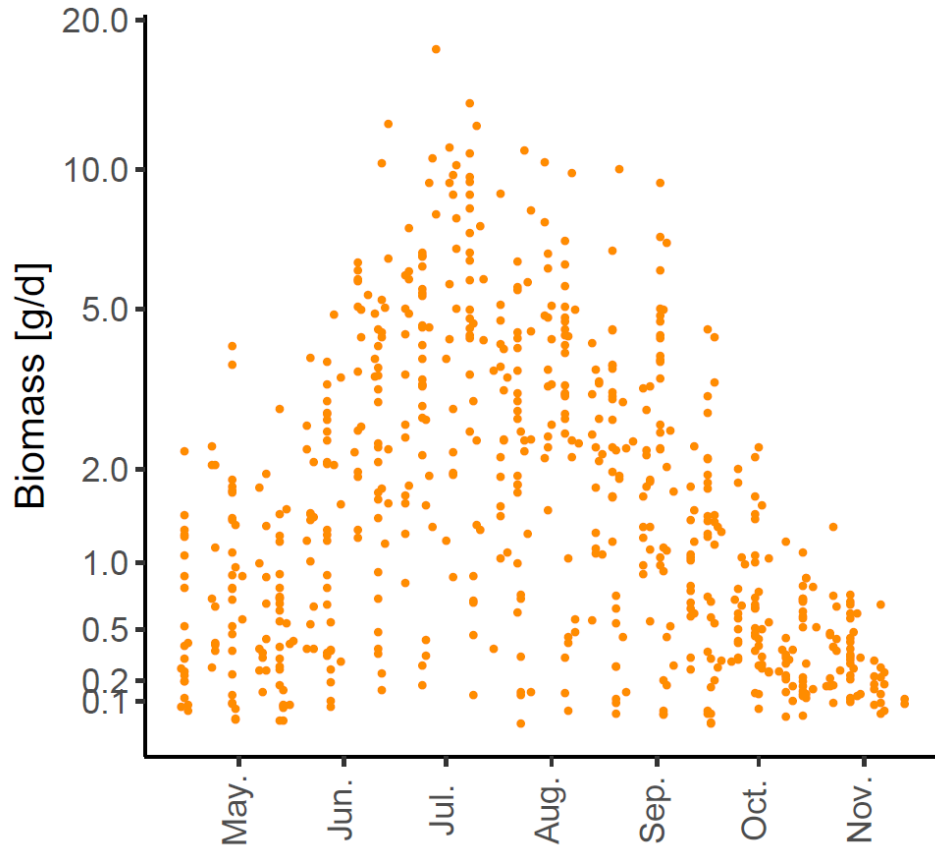


Sites

- NP Vorpommersche Boddenlandschaft
- Kammeyergarten (HTW Dresden)
- Rhein-Main-Observatorium
- Institut für Gewässerökol. & Binnenfischerei
- TERENO
- NP Bayerischer Wald
- Uni Rostock
- NP Berchtesgaden
- NP Eifel
- Exploratorium Hainich-Dün
- NP Harz
- Exploratorium Schwäbische Alb
- NP Hunsrück-Hochwald
- BR Flusslandschaft Elbe MV
- NP Jasmund
- BR Oberlausitzer Heide- und Teichlandschaft
- NP Unteres Odertal
- BR Schaalsee

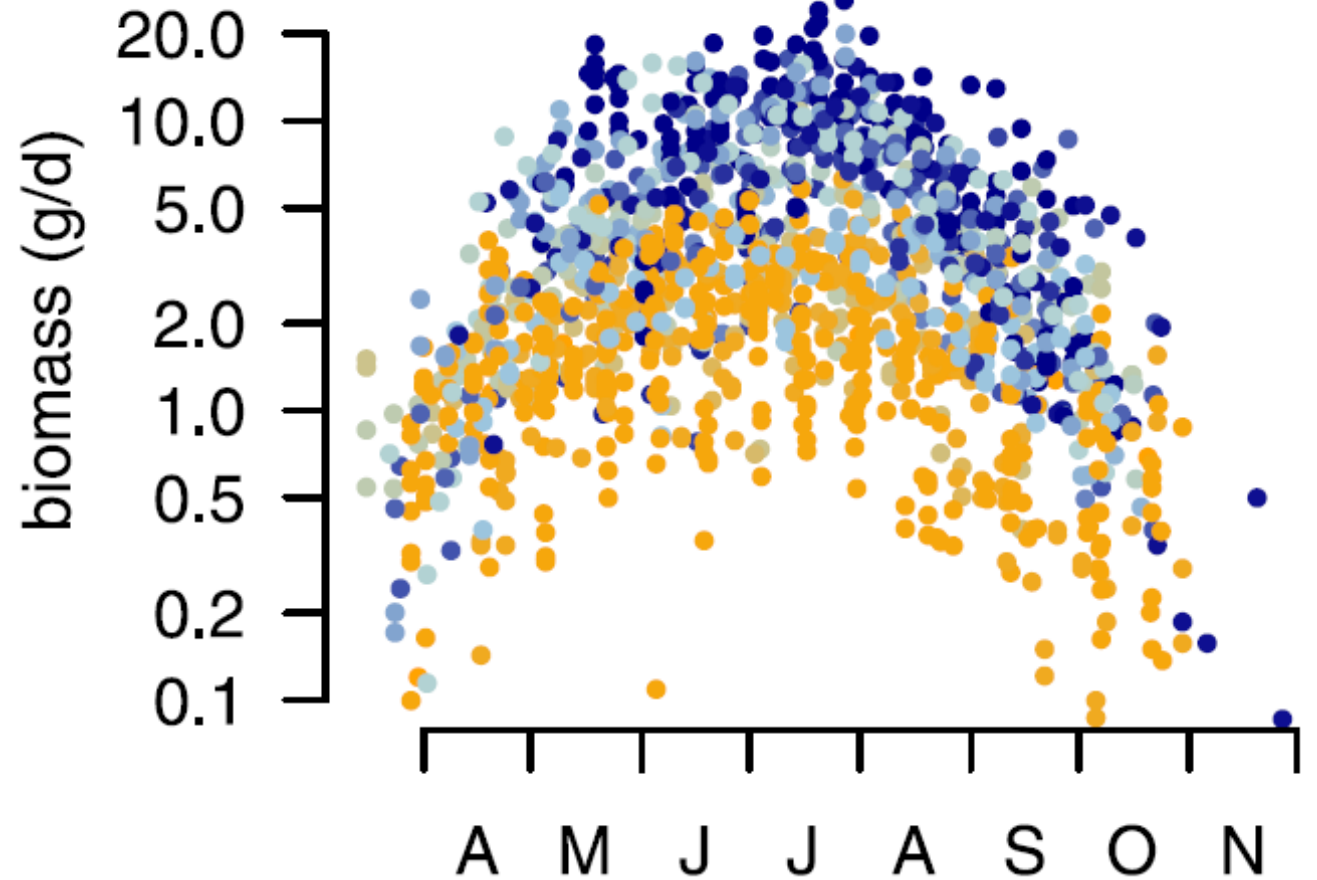
## vs. biomasses reported by Hallmann et al. 2017

2019



674 samples; 1.06sqm

1989 (blue) - 2016 (orange)

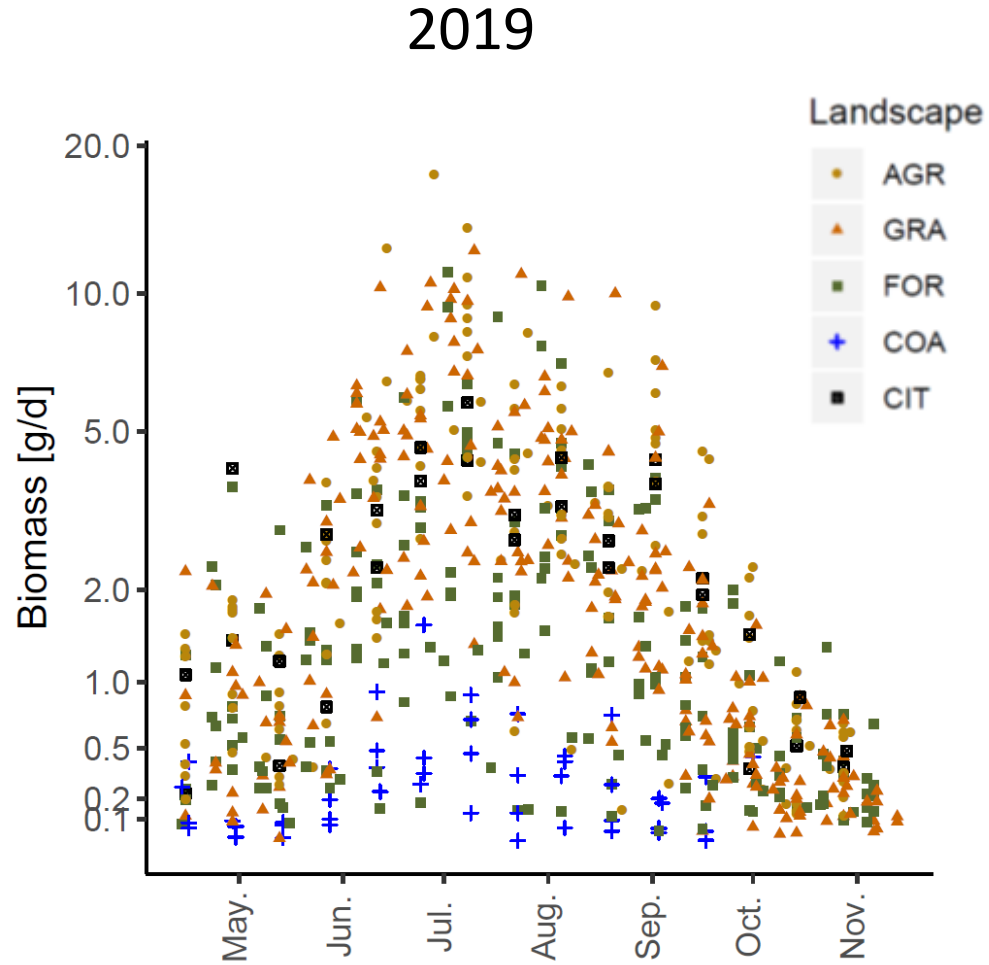


1503 samples; 1.9 sqm

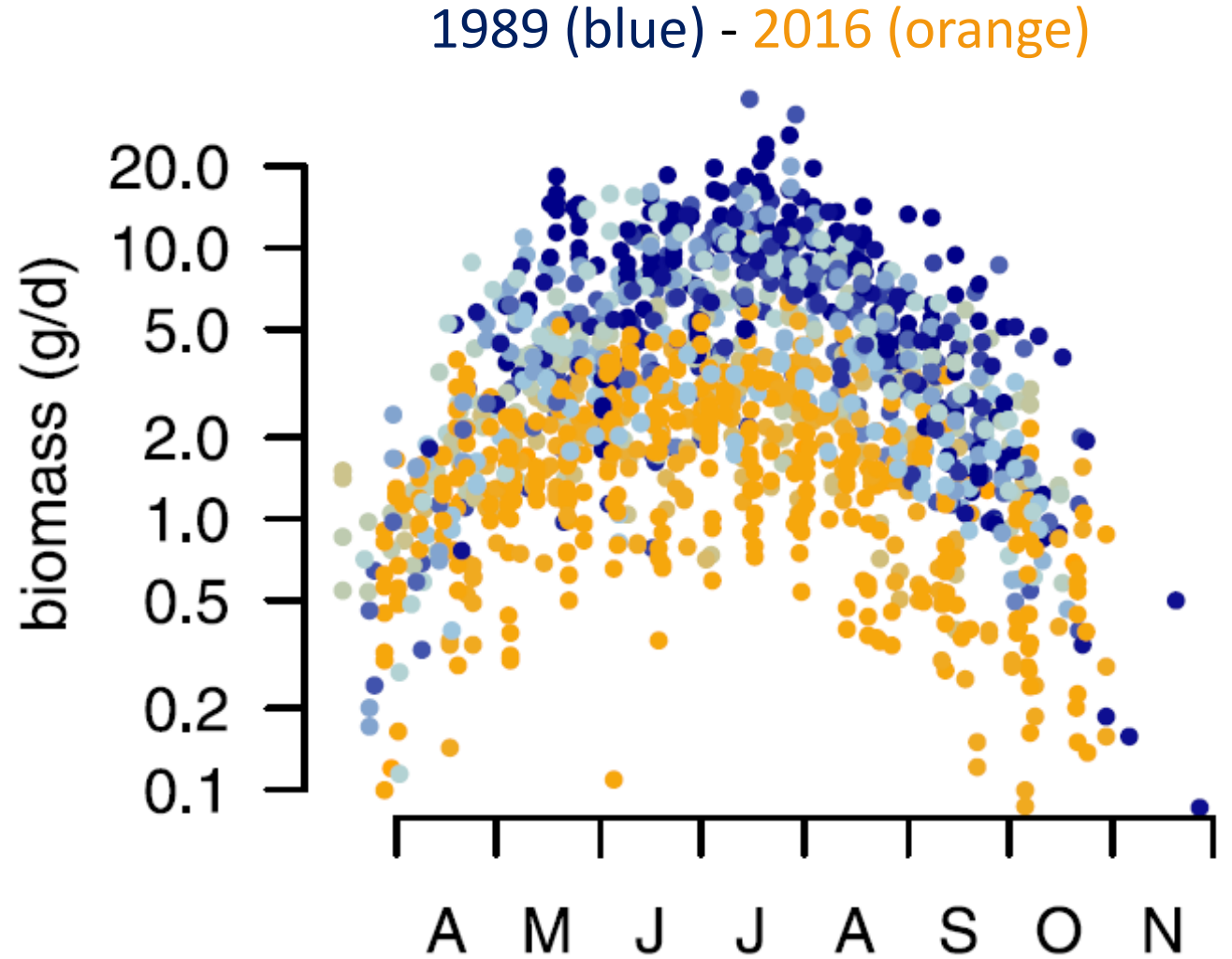


# Biomasses 2019 per habitat

## vs. biomasses reported by Hallmann et al. 2017

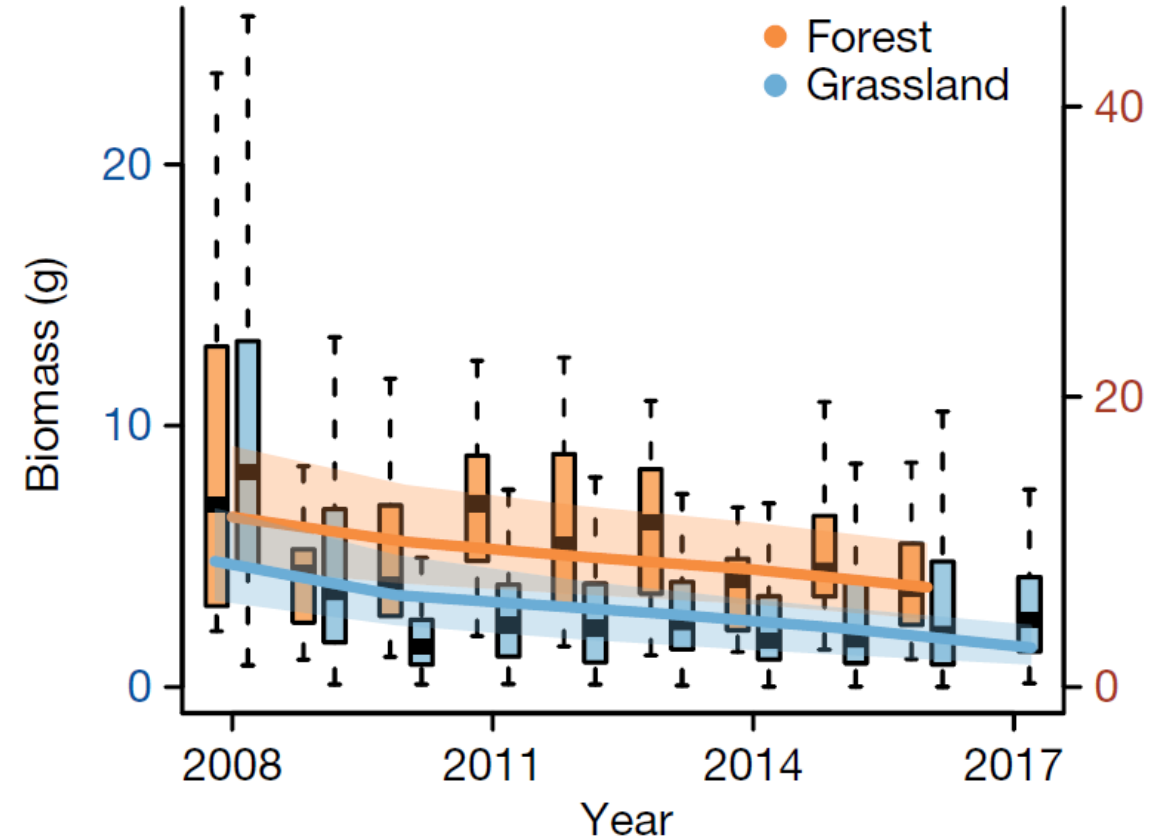
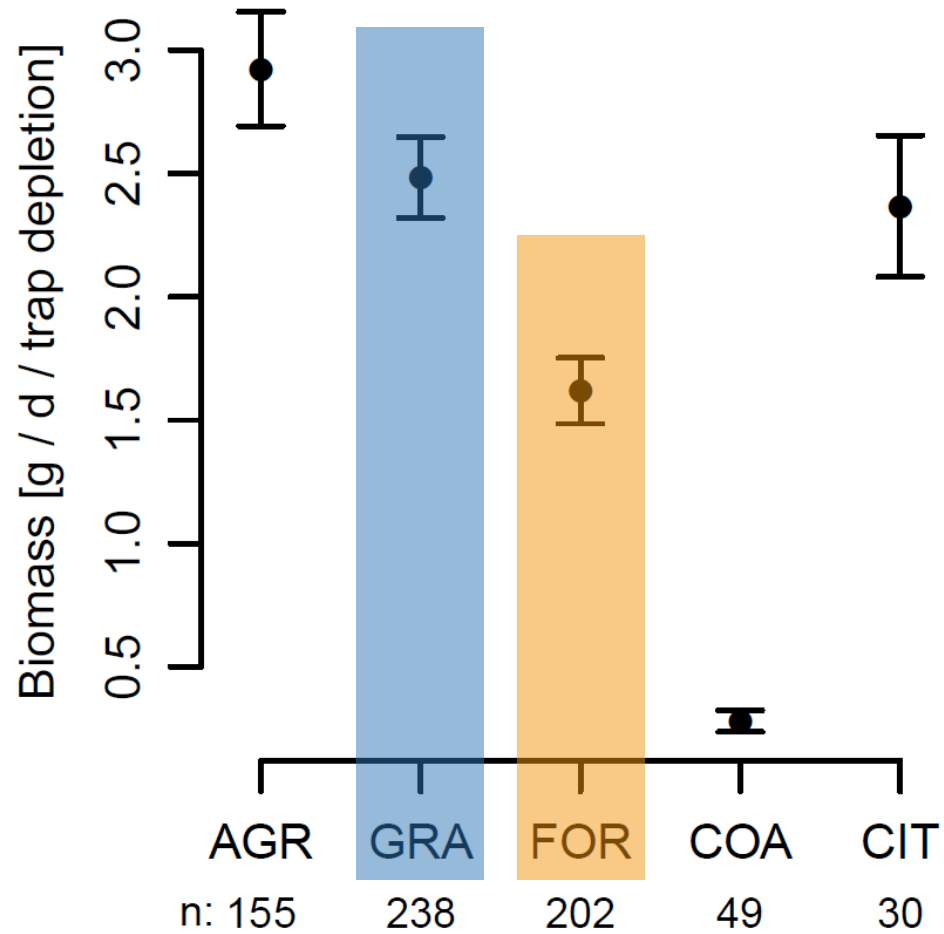


674 samples; 1.06sqm



1503 samples; 1.9 sqm

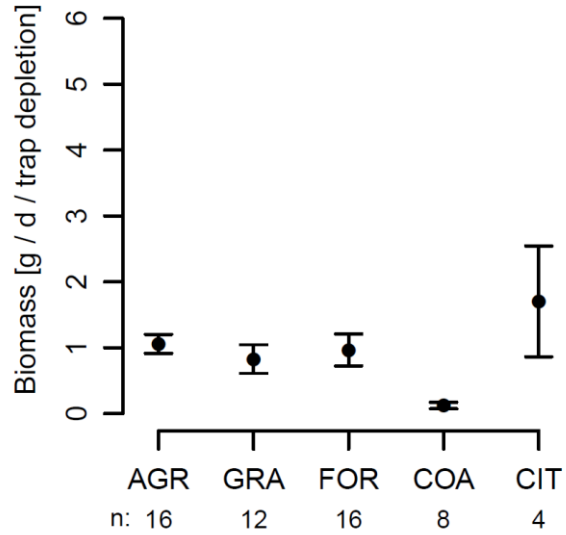
# Biomasses 2019 per habitat vs. biomasses reported by Seibold et al. 2019



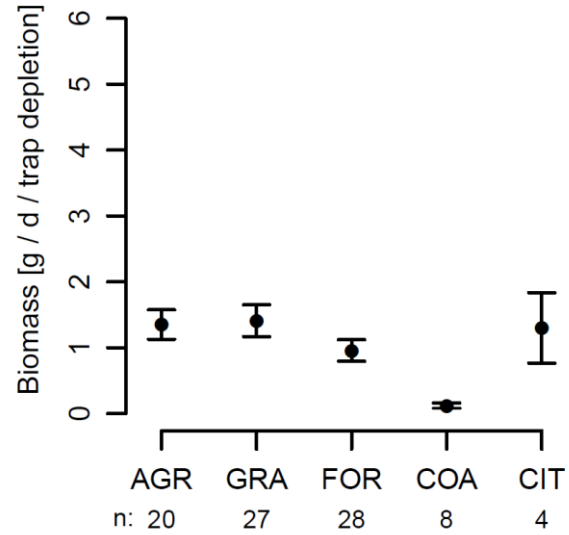
*Note: three differently scaled y-axes*

# Biomasses 2019 per habitat and sampling month

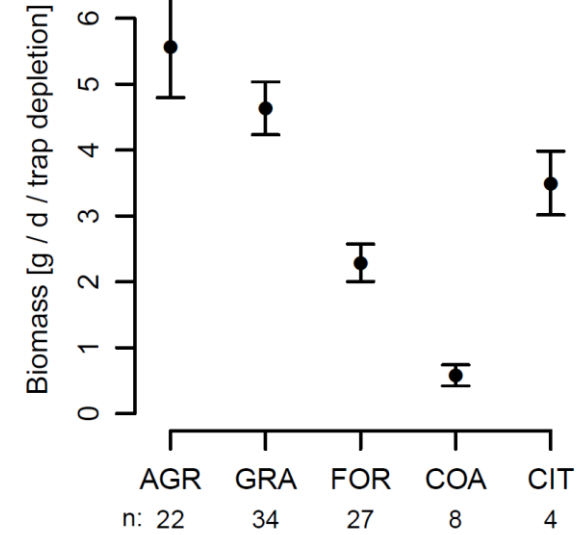
April 2019



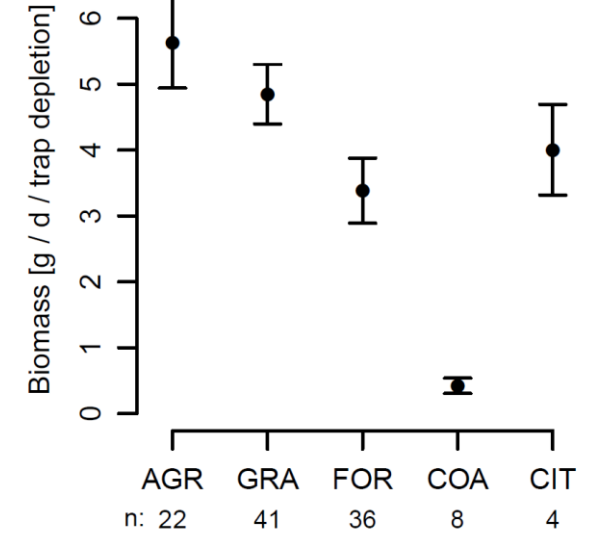
May 2019



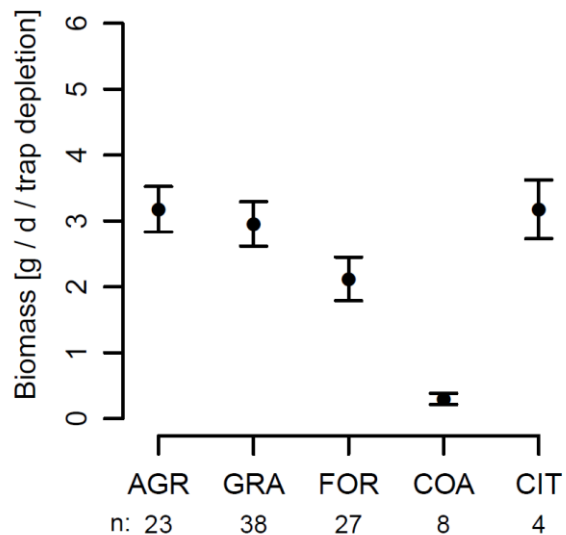
June 2019



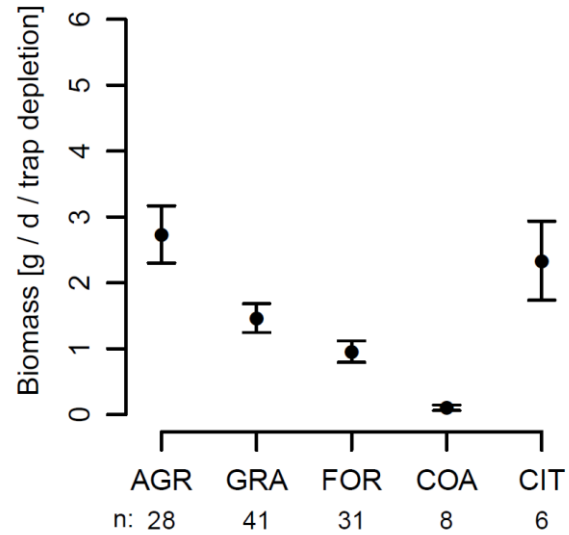
July 2019



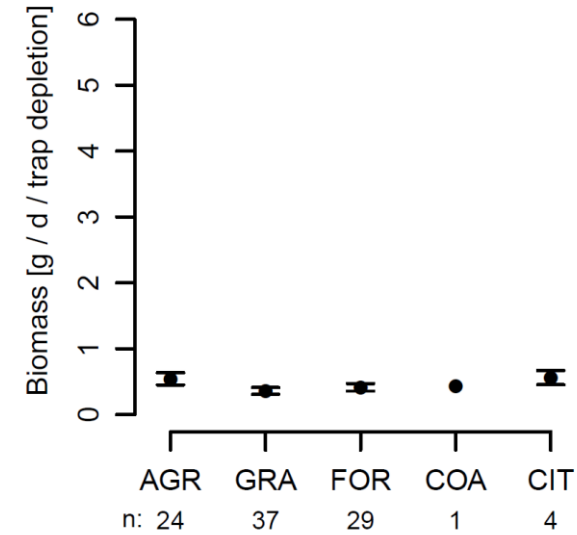
August 2019



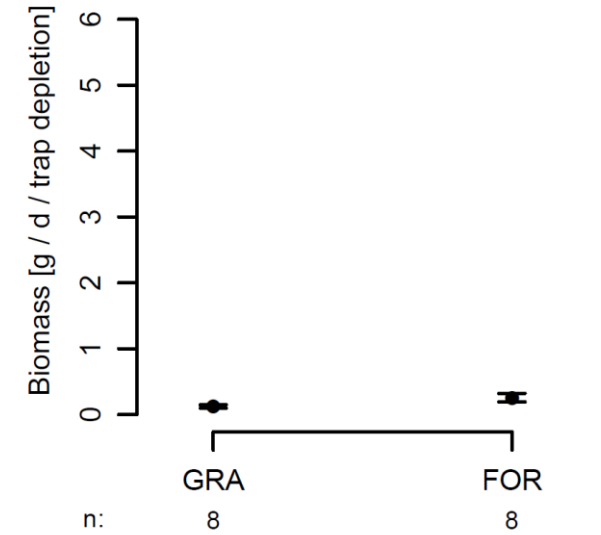
September 2019



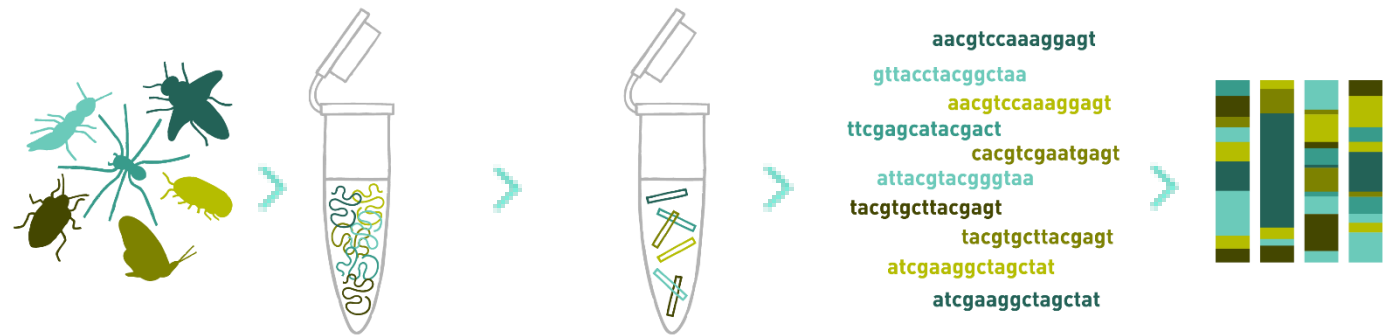
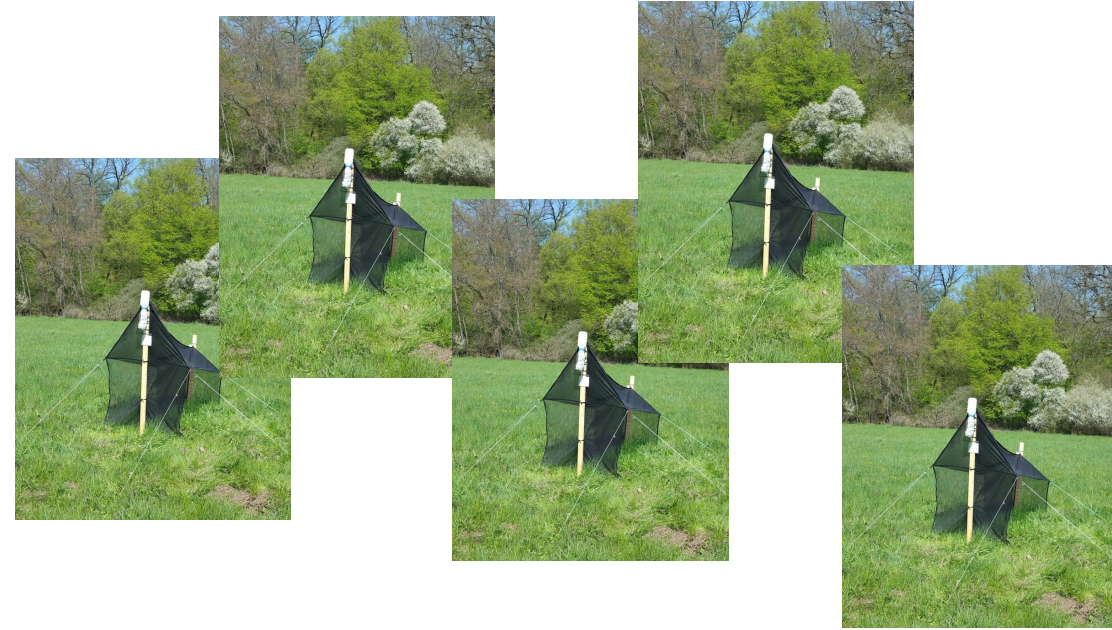
October 2019



November 2019



- Finalizing biomass determination  
+13 traps; 185 samples (overall 861 samples)
- Recruitment of additional sites (4-6)
- Testing eDNA approach (metabarcoding)



2019:

→ 23 sites

→ 63 traps

2020:

→ 7 additional sites (30 in total)

→ 84 traps

