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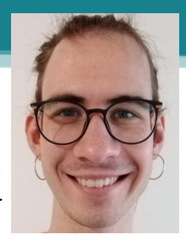

Hydropeaking and mayfly oviposition habitat availability in a large river: towards new evaluation of aquatic organism vulnerability to dewatering

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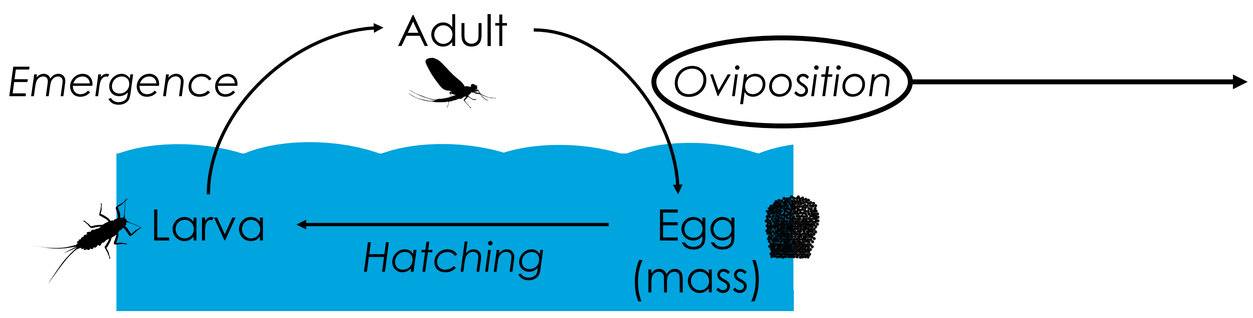
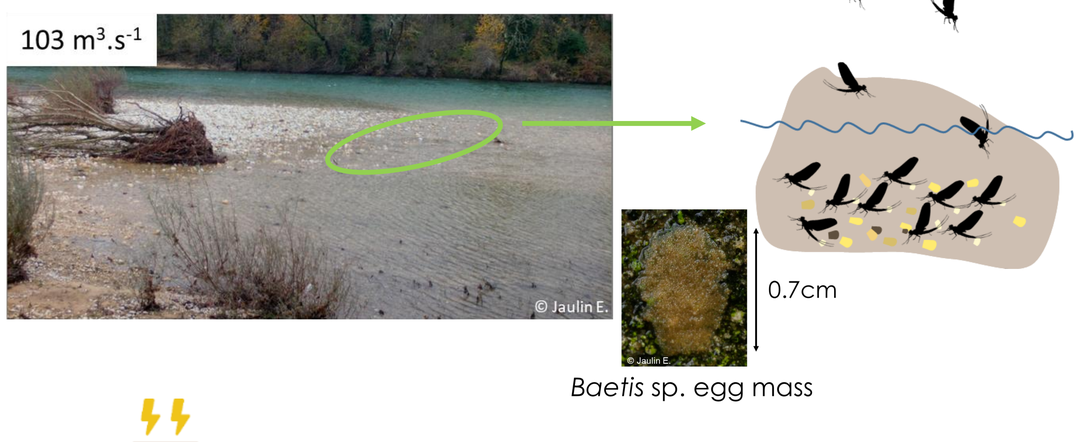
Life-cycle of stream insects



Oviposition habitat used by *Baetis* females



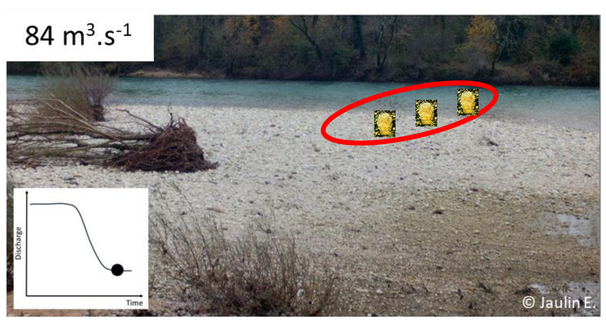
Baetis sp. egg mass

Hydropeaking

Subdaily variations of discharge, flow velocity, water level

Oviposition habitat submerged and unavailable

Egg dewatering



Objectives

At the scale of river sector (38km)

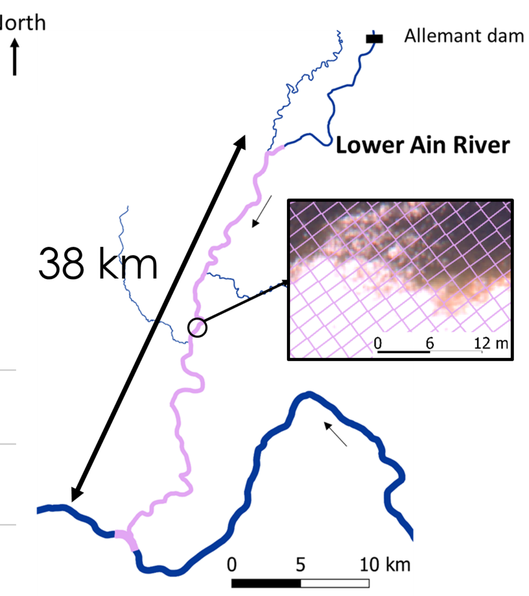
Quantify *Baetis* oviposition habitat **available** depending on discharge

Quantify *Baetis* oviposition habitat **dewatered** during an artificial flow decrease

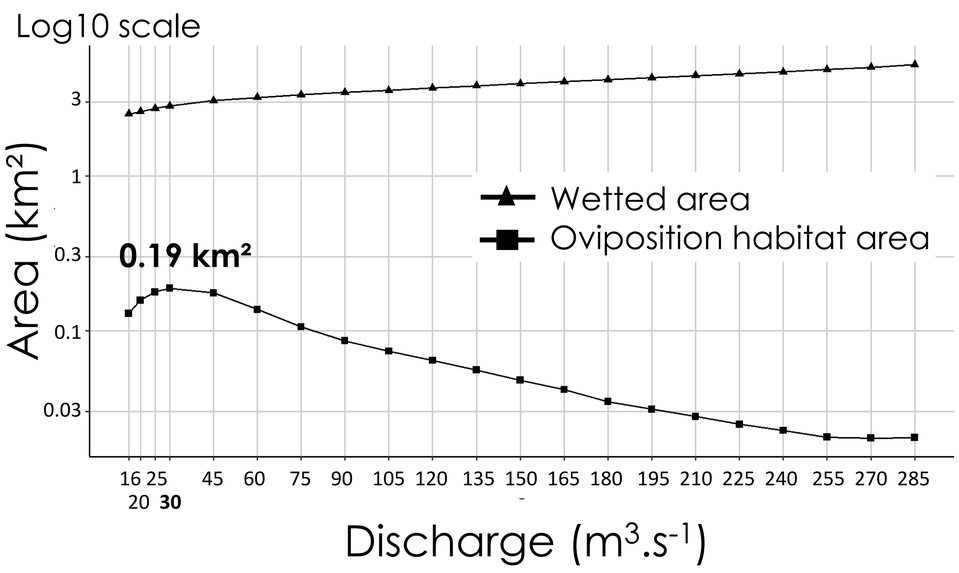
Hydrodynamic model

(Rubar 20, Paquier, 2011)

Hydropeaked river



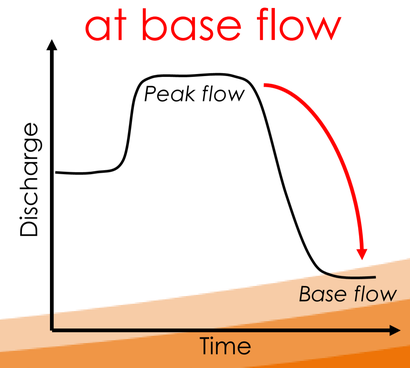
Flow velocity, Water depth at 21 discharges



Peak/Base flow values
Artificial flow decreases
identified between 2012 – 2022
(Courret et al., 2021)

886 artificial flow decreases
(2012 – 2022)

85 % (Q1) – **100 %** (Q3)
of suitable oviposition habitat available at peak flow are dewatered at base flow



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