



Socio-ecological assessment of reintroducing the European pond turtle in Alsace, NE France

EMYS@lsace

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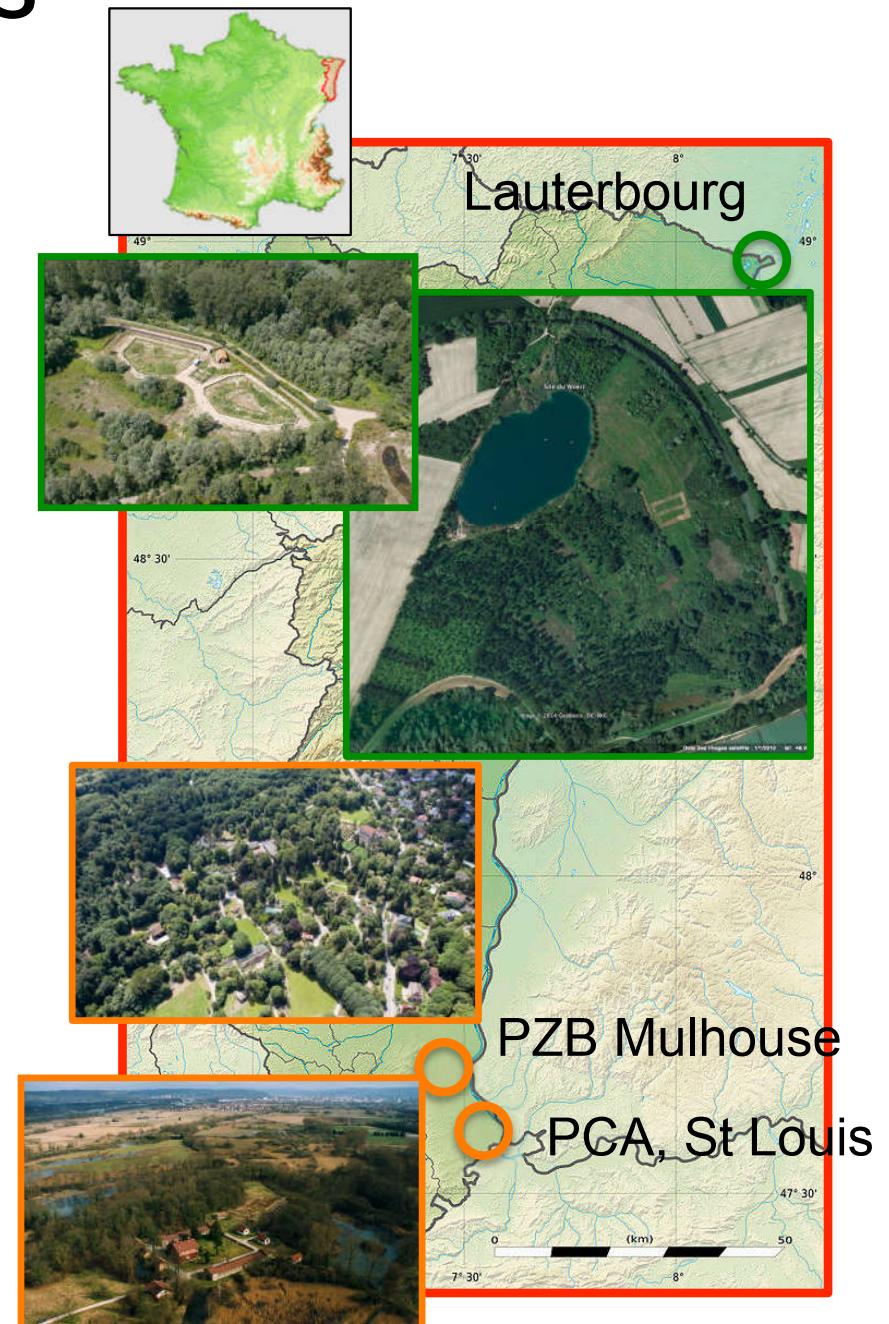


History

- **1990:** the local council (CD67) includes the species in its Environment Charte
- **2004:** the national autorities (CNPN) validates the project of reintroducing the European pond turtle in Alsace
- **2009-2012:** INTERREG IV funds CD67's project: "Borderless European pond turtle" (1,2M€)
- **2012-2020:** CD67 funds captive facilities, scientific monitoring, educative actions
- **2017:** CNRS-IPHC gets official authorisations from CSRPN for capturing in the wild
- **2018:** CD67 gets official authorizations from CSRPN for releasing in the wild
- **2019:** the local contact of the Actions National Plan (PNA) leaves his position
- **2021:** scheduled end of the first phase of the reintroduction program

Settings

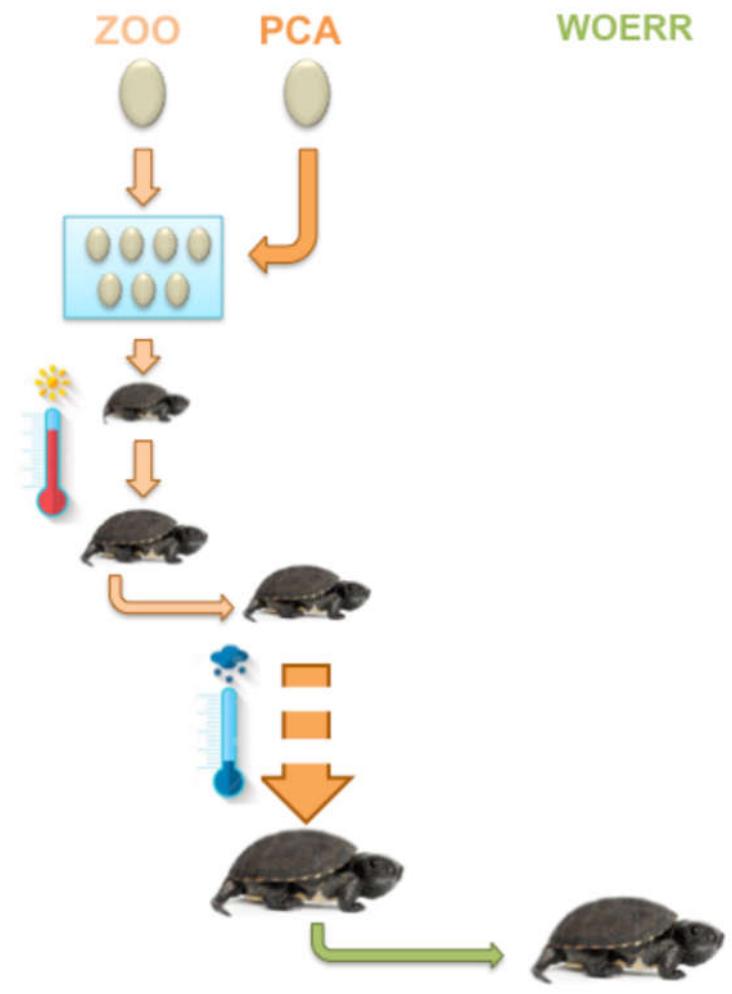
- 2 conservatory husbandries
 - Petite Camargue alsacienne (15 ♀ : 8 ♂)
 - Parc Zool et Bota Mulhouse (5 ♀ : 3 ♂)
- 1 dedicated natural release site
 - Site du Woerr (co-gestion ONF/CD67, 57ha RBD, 30ha ENS)
 - ZNIEFF, Natura 2000
- Objectives
 - Restoring the Woerr site
 - Release 500 individuals by 2021



Production and transfer

- Collecting eggs (15may-15july)
 - ID ♀, ID eggs, biometry
- Artificial incubation (PZBM)
 - 2 ♀ : 1 ♂
 - ID hatchlings (paint, pearl, RFID)
- First winter warm and fed
 - MonsterDiet food
 - Monthly biometry
- Outdoor enclosure (PCA)
 - Monthly biometry
- Release @ 6-7 years old
 - Monthly CMR, telemetry, etc.

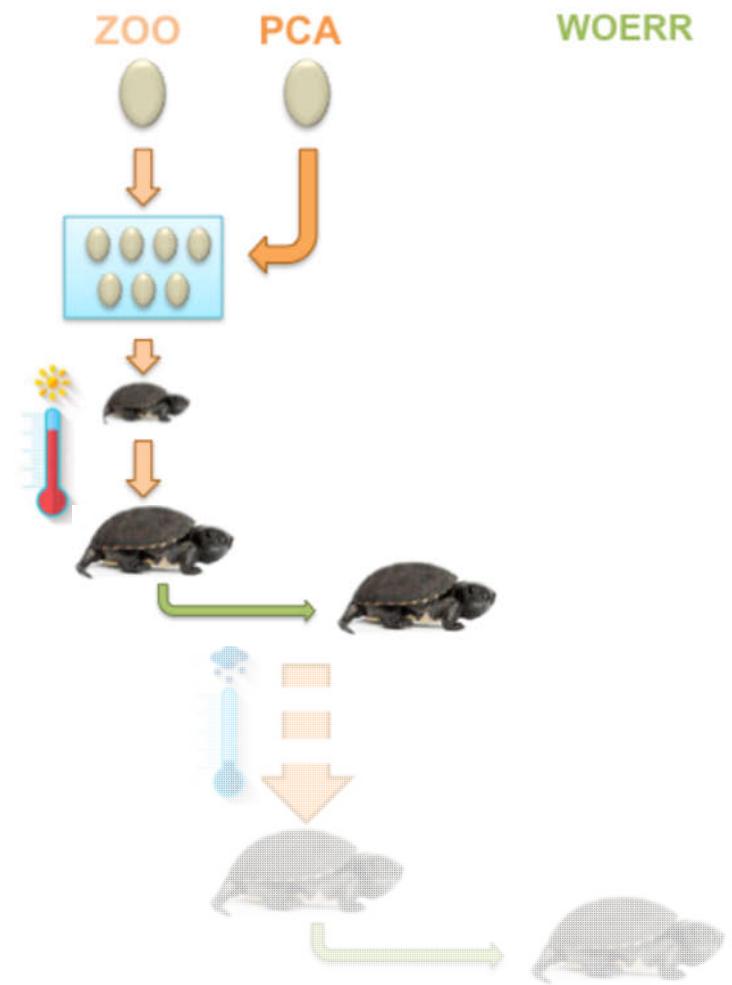
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6
Age (yr)



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 - Monthly biometry
- **Release @ 6-7 < 1 year^s old**
 - Monthly CMR, telemetry, etc.

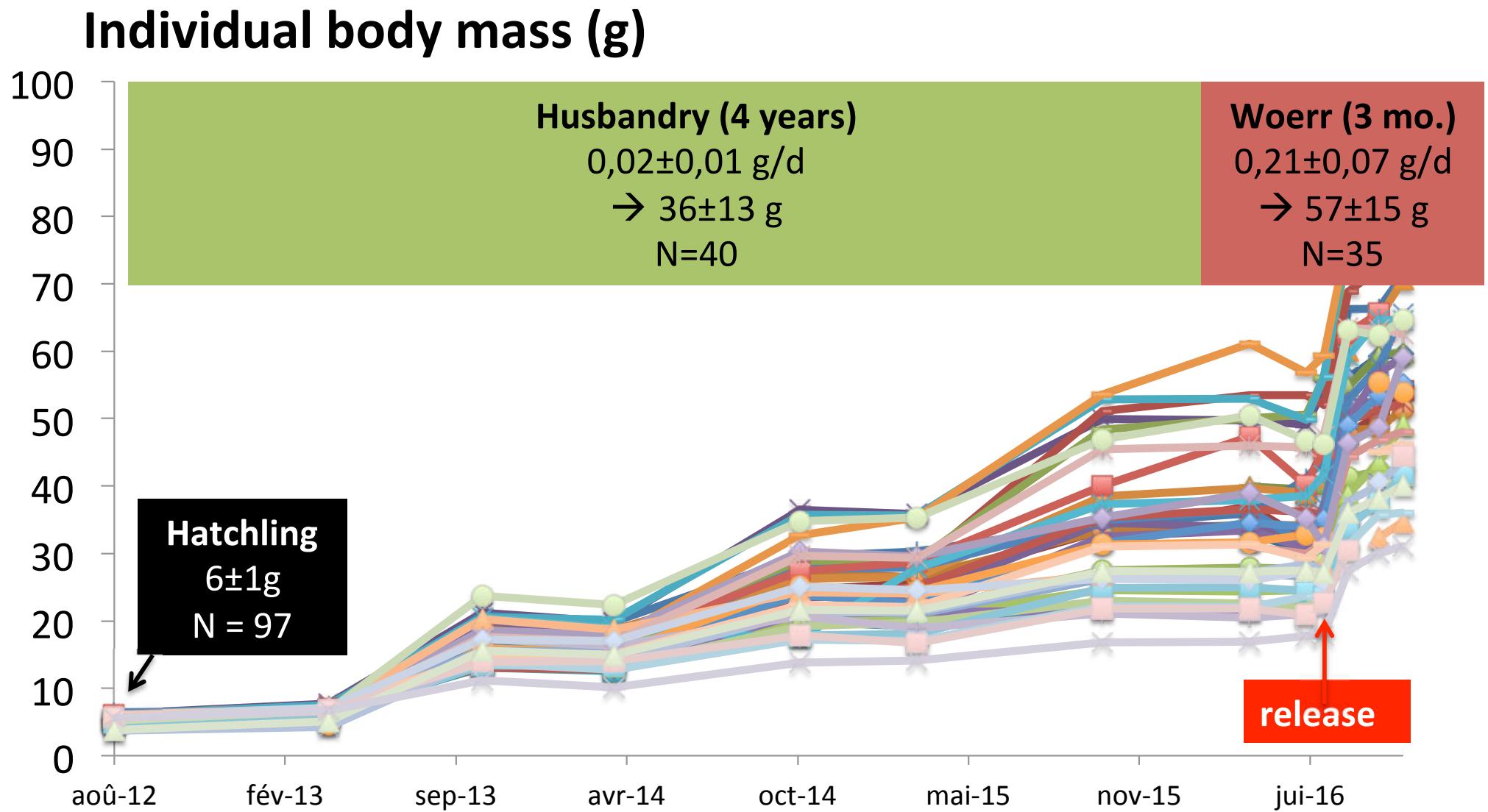
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Age (yr)



Population size and survival

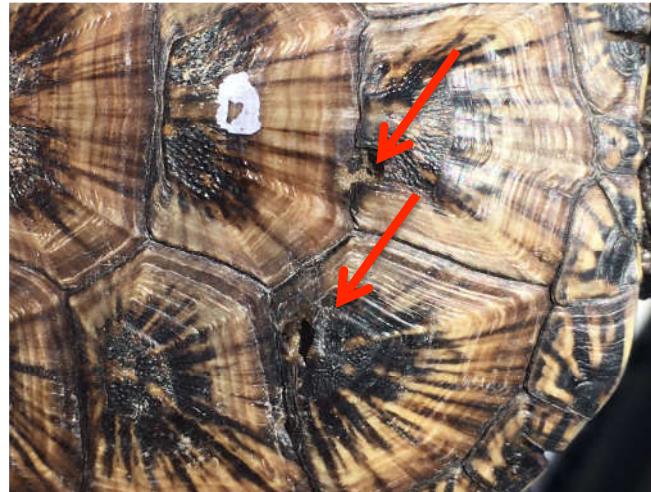
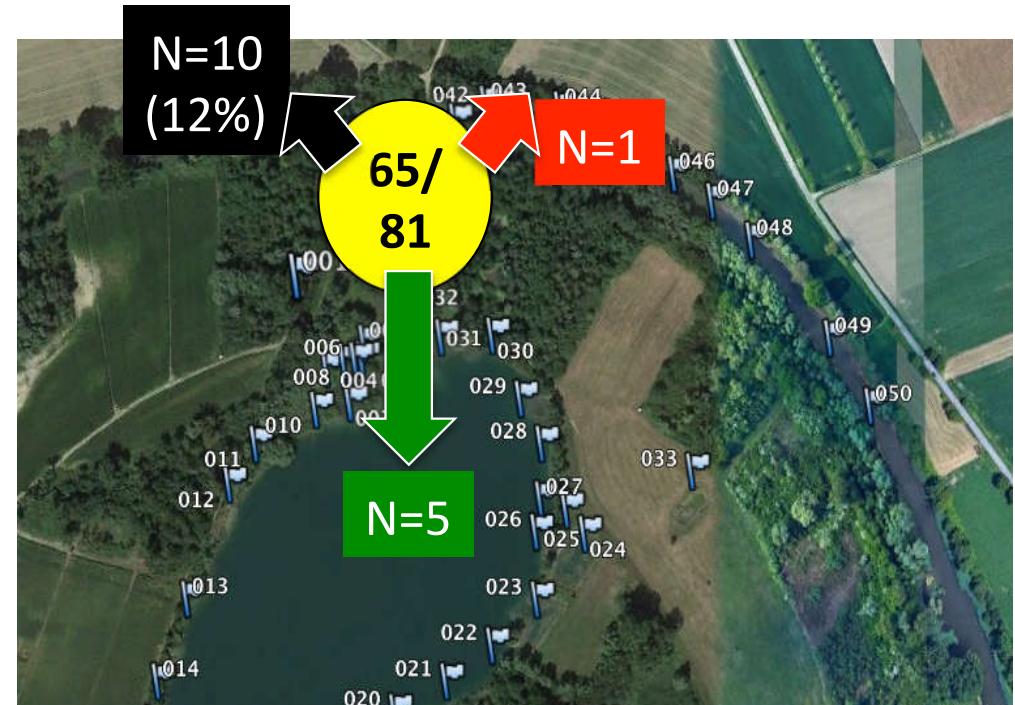
	Summer 2013	Fall 2014	Summer 2016	Summer 2018	Spring 2019
Pond N	→ 15		→ 43	→ 200	→ 119
Pond S		→ 23			
Age	6-7	3-6	4	1-5	1
Biomass (kg)				6,7	8,3
Survival	53%	87%	83%	51%	57%

Individual growth



Dispersion and reproduction

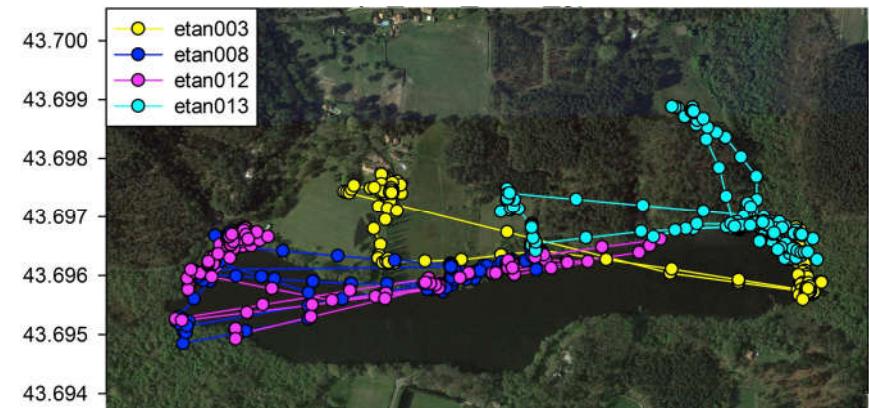
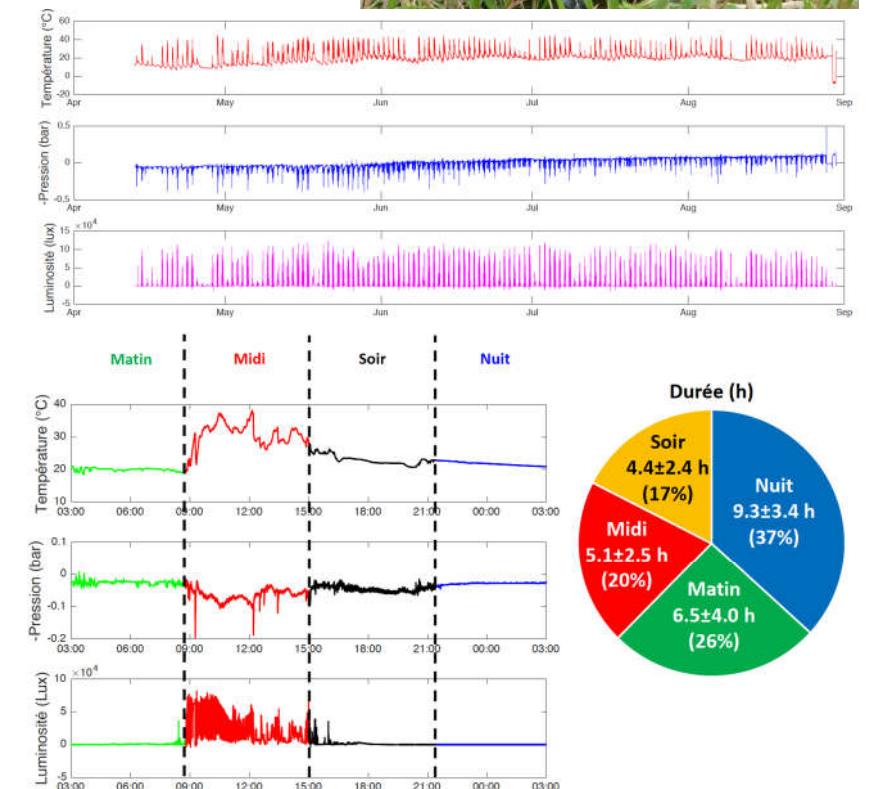
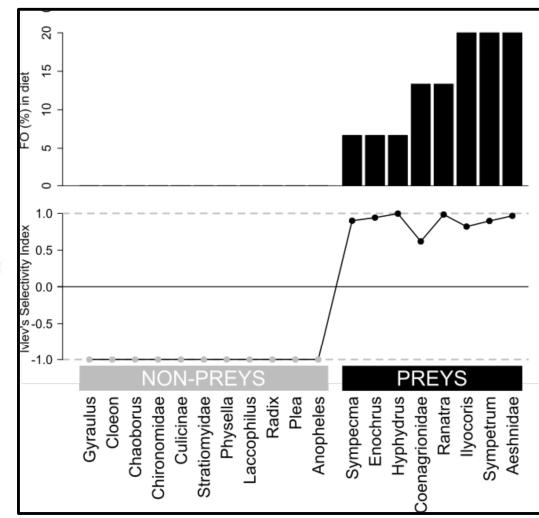
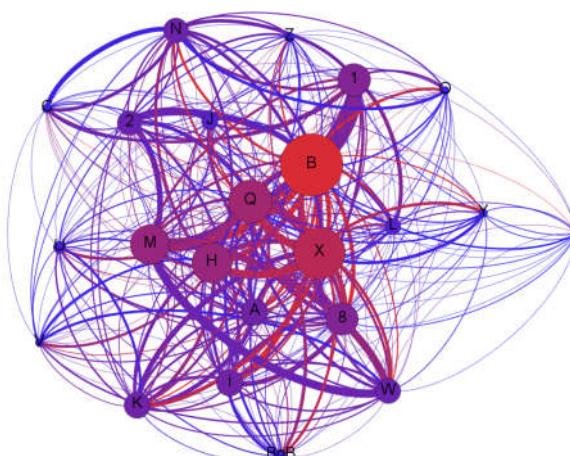
- Low dispersion
 - Density-not-dependent dispersion
 - 2019: predator-borne dispersion
- Reproduction (since 2019)



Other monitoring



- Individual behaviour (TDR)
- Social organisation and paternity (Totitags, nDNA)
- Feeding ecology (eDNA)
- Spatial ecology (GPS)



Non-turtle actions

- Invasive species
 - *Trachemys s.e.*
 - *Procambarus immunis*
- Sociological assessment
- Communication and education



General discussion

- Habitat quality
- Relevance of
 - Acclimatation basins
 - Age at release (versus body size)
- Effects of release on
 - Existing species
 - People's behaviour
- Communication around reintroduction actions