Moths and habitat management, with marsh moths as a case.

Wim Veraghtert - Natuurpunt Studie

natuurpunt

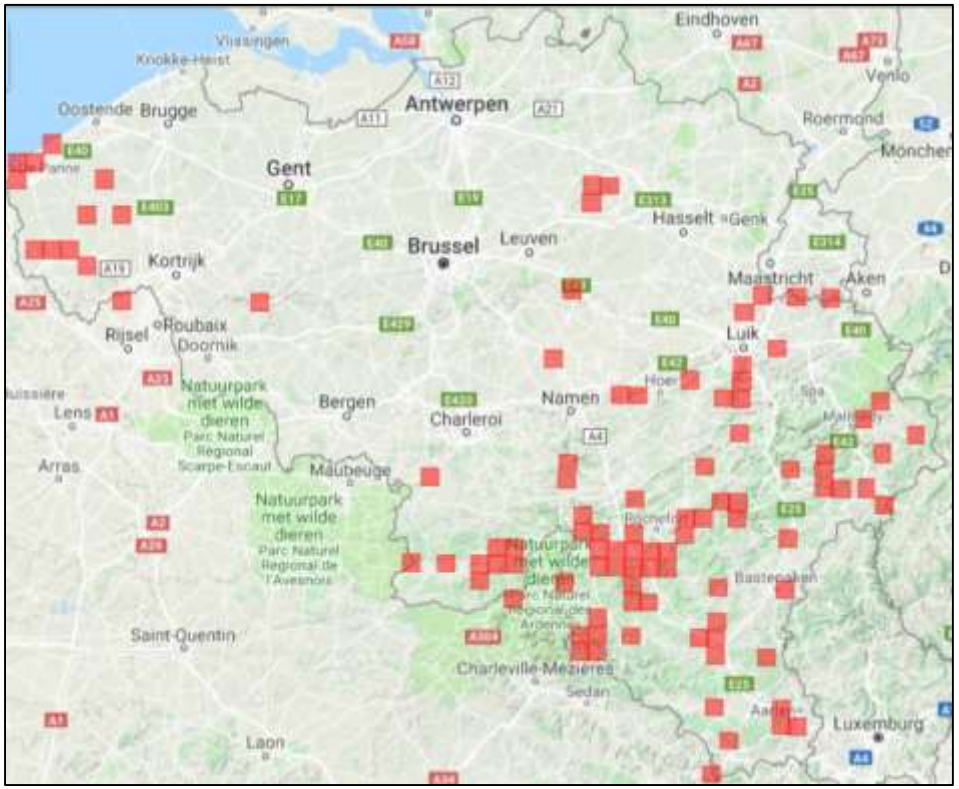
Moths & habitat management

In contrast to butterflies, moths are often neglected.

- Local moth diversity not always surveyed.
- Specific habitat requirements of rare species largely unknown

→ Making appropriate recommandations is difficult

Griposia aprilina
Merveille du Jour
Diana-uil – La Runique



Moths & nature management

Habitat specialists need more than the right food plant!

Perizoma albulata
Grass Rivulet
Ratelaarspanner
La Périzome du Rhinanthe

&

Rhinanthus minor
Yellow-rattle
Kleine ratelaar

Moths & nature management

Literature: 'macro-moths' & habitat management

- Habitat patches & moth mobility
- Minimum size of forest fragments?

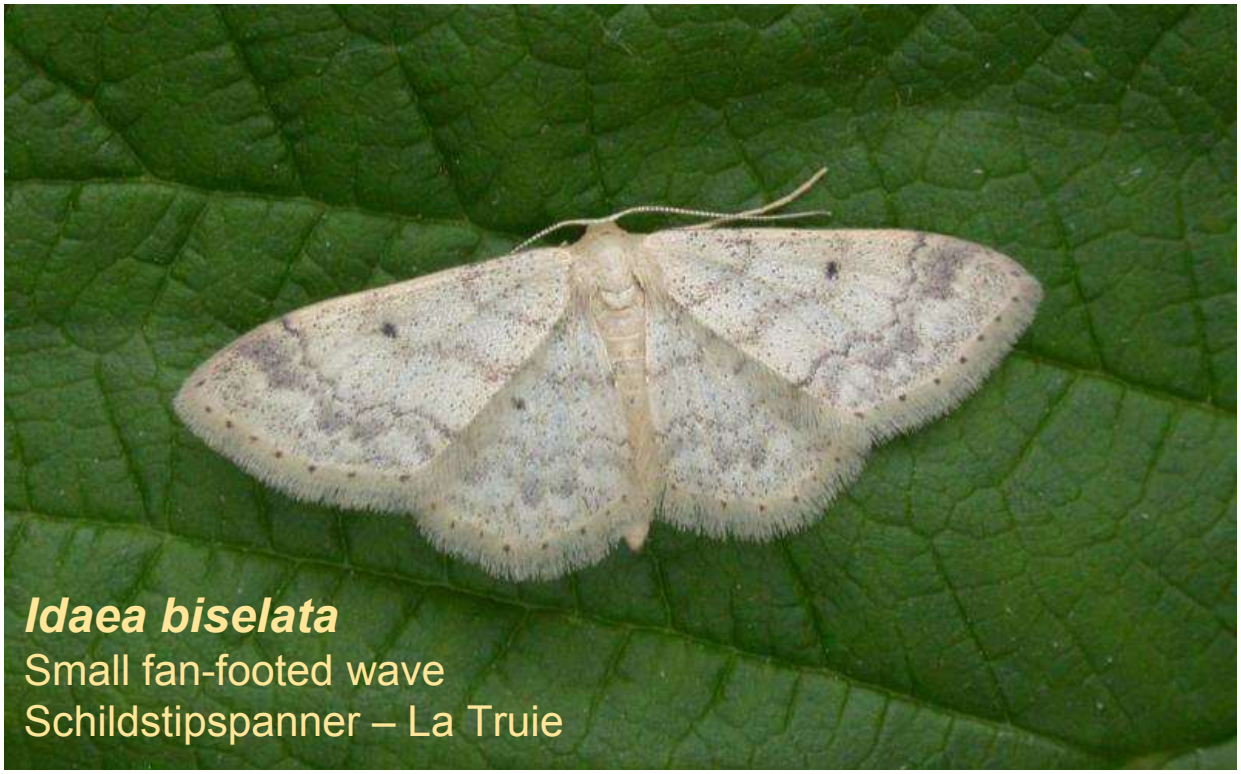
Slade E. M. et al. 2013. Life-history traits and landscape characteristics predict macro-moth responses to forest fragmentation. Ecology 94: 1519-1530.

Moths & nature management

Literature: 'macro-moths' & habitat management

- Impact of forest management on woodland moths
  - Unmanaged forest & coppice management

Merckx T. et al. 2012. Conserving threatened Lepidoptera: Towards an effective woodland management policy in landscapes under intense human land-use. Biol. Cons. 149: 32-39



Idaea biselata
Small fan-footed wave
Schildstipspanner – La Truie

Stauropus fagi
Lobster moth
Eekhoorn

Moths & restored habitats

Large-scale habitat restoration is successful!
Example: Averbode Bos & Heide

Aporophyla nigra
Black rustic
Zwarte witvleugeluil

Why focus on marsh moths?

Soortnaam	Wetenschappelijke naam	Biotooptype/ voedselplant
Rietluipaard	*Phragmataecia castaneae*	Riet
Moeraswalstrospanner	*Orthonama vittata*	Moeraswalstro
Poelruitspanner	*Gagitodes sagittata*	Poelruit
Pijlkruidspanner	*Mesotype didymata*	Divers
Valeriaandwergspanner	*Eupithecia valerianata*	Echte valeriaan
Wederikdwergspanner	*Anticollix sparsata*	Grote wederik
Moerasspinner	*Laelia coenosa*	Galigaan
Klein muisbeertje	*Pelosia obtusa*	(algen en korstmossen op) Riet
Sneeuwbeer	*Spilosoma urticae*	Gele lis, Grote wederik, Watermunt, Water-zuring, e.a
Moeras-w-uil	*Lacanobia splendens*	o.a. Bitterzoet
Spitsvleugelgrasuil	*Mythimna straminea*	Riet, Rietgras
Gestreepte rietuil	*Leucania obsoleta*	Riet
Gevlamde rietuil	*Senta flammea*	Riet
Kleine rietvink	*Simyra albovenosa*	Riet
Splinterstreep	*Naenia typica*	Divers
Moerasgrasuil	*Lateroligia ophiogramma*	Rietgras, Liesgras
Rietgrasuil	*Apamea unanimis*	Grassen, o.a. Rietgras
Wollegrasuil	*Celaena haworthii*	Grassen en russen, Veenpluis, wollegras, Gele lis
Gele lis-boorder	*Helotropha leucostigma*	Gele lis
Lisdoddeboorder	*Nonagria typhae*	Lisdodde
Gestippelde rietboorder	*Lenisa geminipuncta*	Riet
Geelbruine rietboorder	*Archanara dissoluta*	Riet

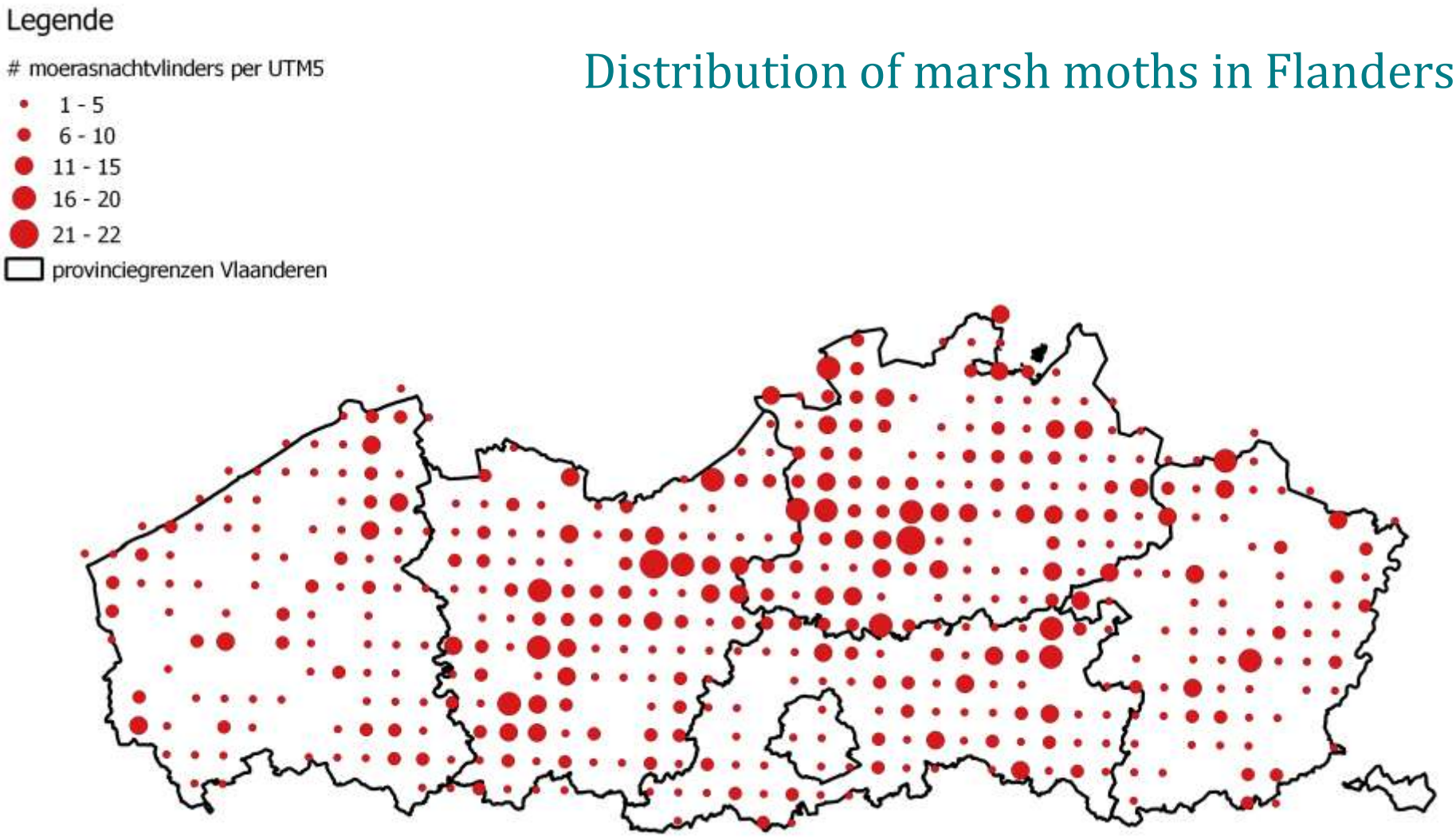
Veraghtert et al. 2012. Natuur.focus 11(1): 12-20

- Marshes as an interesting habitat for invertebrates
- A selection of 33 species of macro-moths
- 10 species with ‘Natuurpunt-label’

Simyra albovenosa
Reed Dagger
Kleine rietvink

Marsh moths

Distribution of marsh moths in Flanders



Marsh moths

Reed Leopard (*Phragmataecia castaneae*)
Rietluipaard – La Zeuzère du Roseau

Distribution in Belgium (2003-2018)

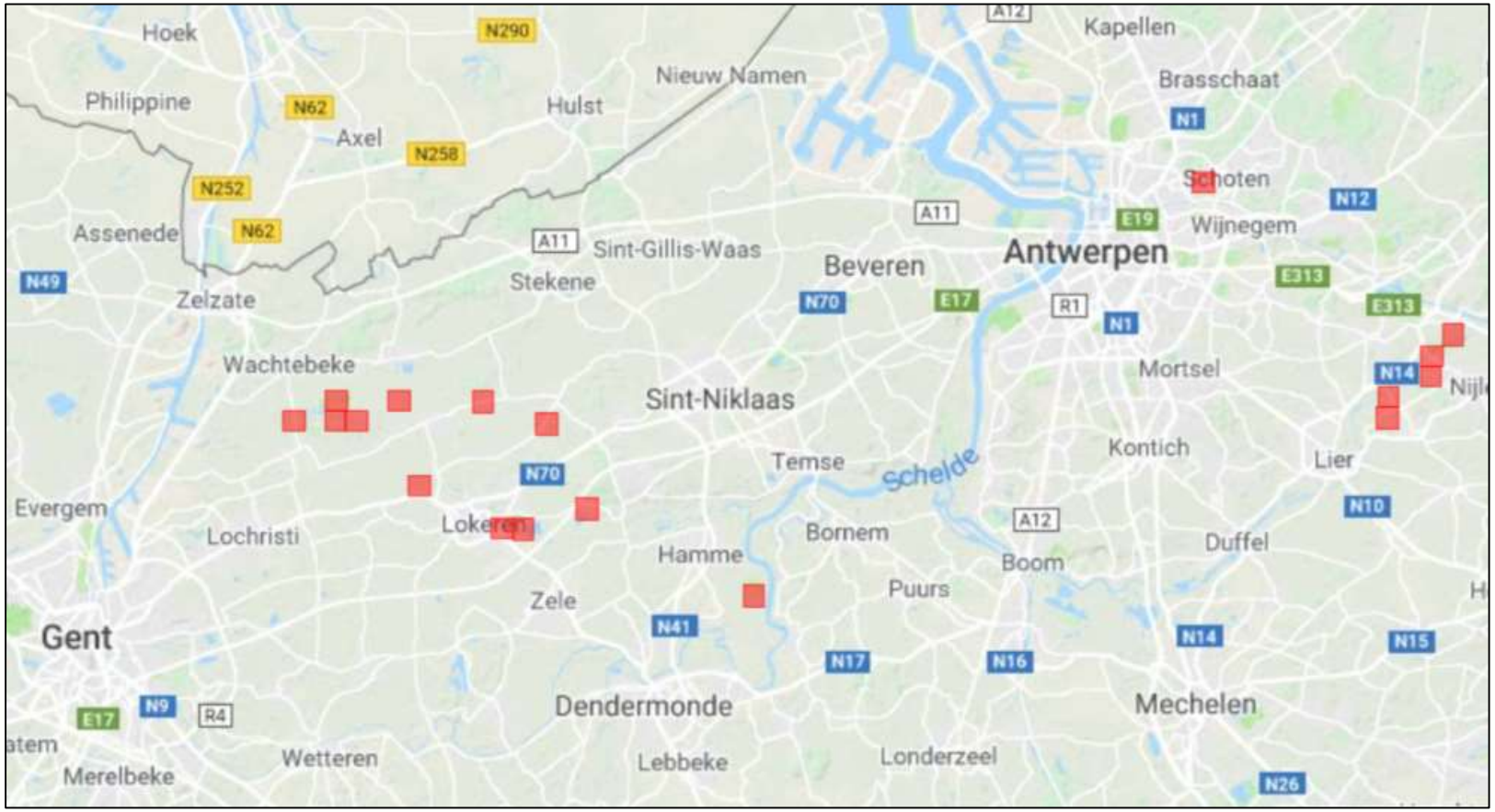
Marsh carpet
Gagitodes sagittata

Very rare in Western Europe
Feeds on Common Meadow-rue (*Thalictrum flavum*)

Poelruitspanner – La Périzome du Pigamon © Maarten Jacobs

Marsh carpet
Gagitodes sagittata

Distribution in Belgium: 2003-2018.



Two strongholds: Durme valley & valley of the Kleine Nete

Common Meadow-rue
Thalictrum flavum

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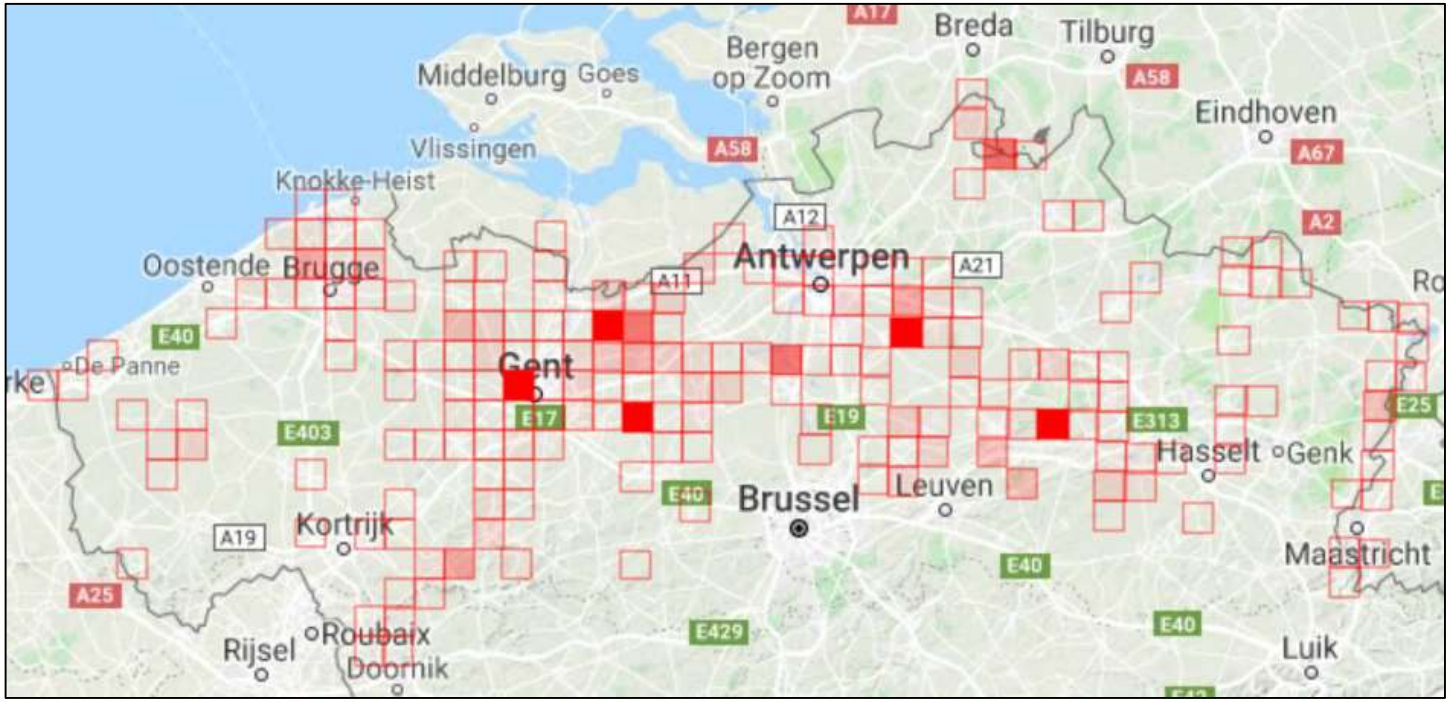
Distribution in Flanders: 2003-2018.



- Often in river valleys
- Often in hydrophilous tall herb fringe communities (Habitat type 6430; Filipendulion)

Marsh carpet *Gagitodes sagittata*

Which foodplants?

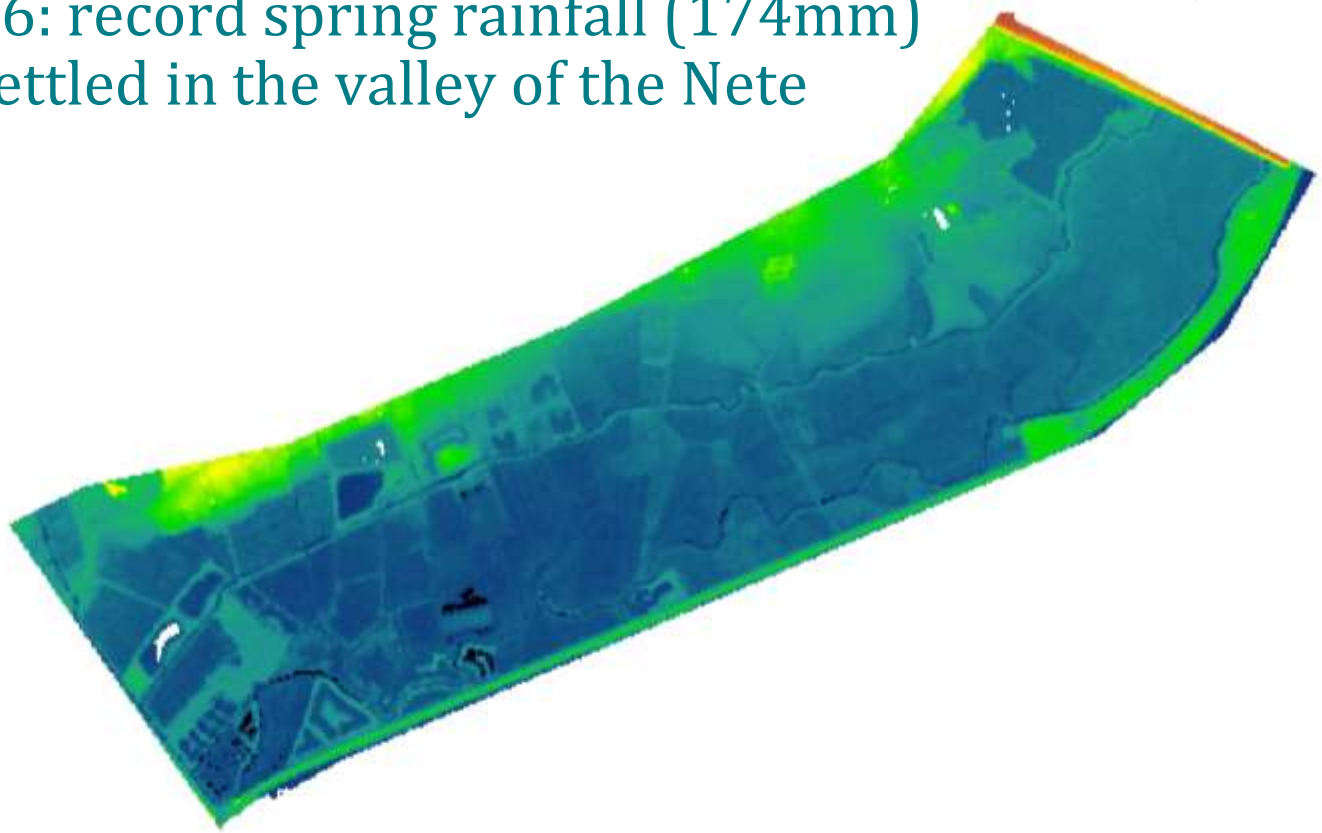
Poelruitspanner – La Périzome du Pigamon
© Robin Vermylen

Management for Marsh carpet

Viersels Gebroekt: Floodings in May-June

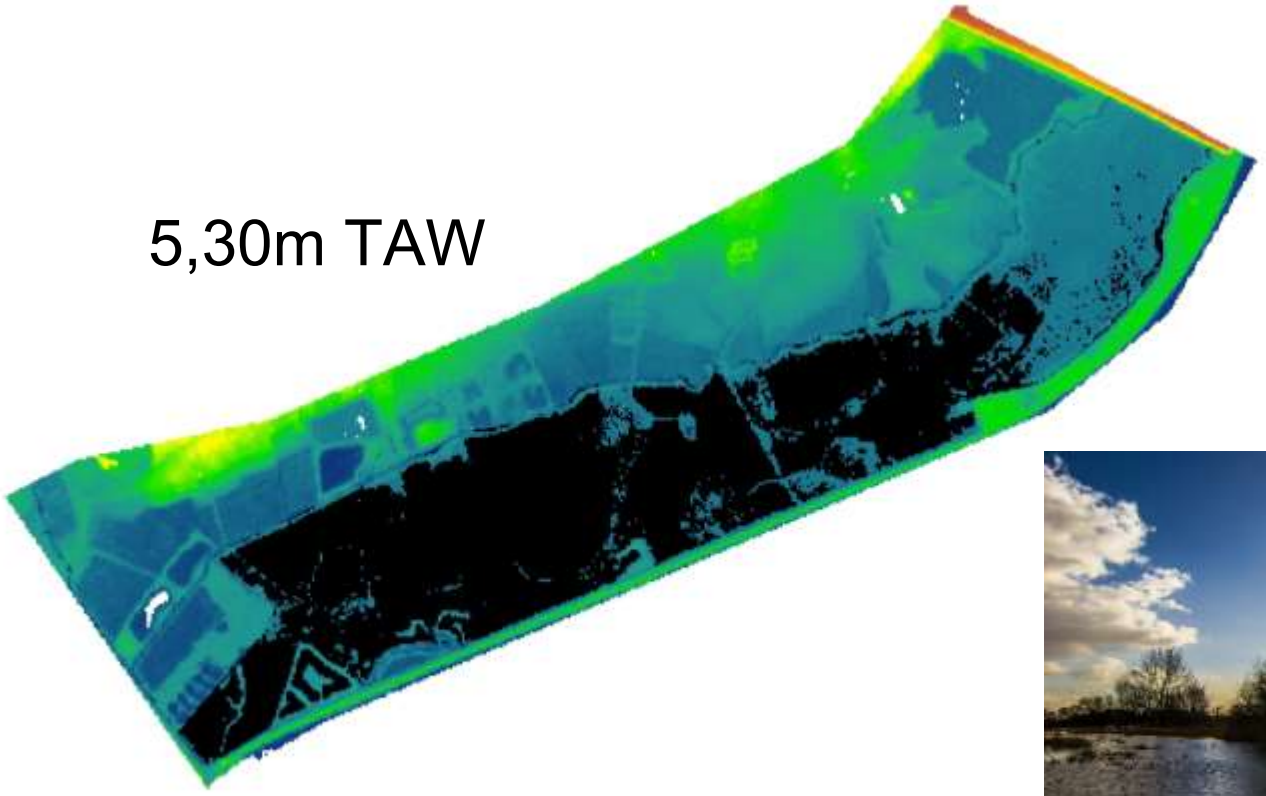
- June 2016: record spring rainfall (174mm)
- Beaver settled in the valley of the Nete

4,60m TAW

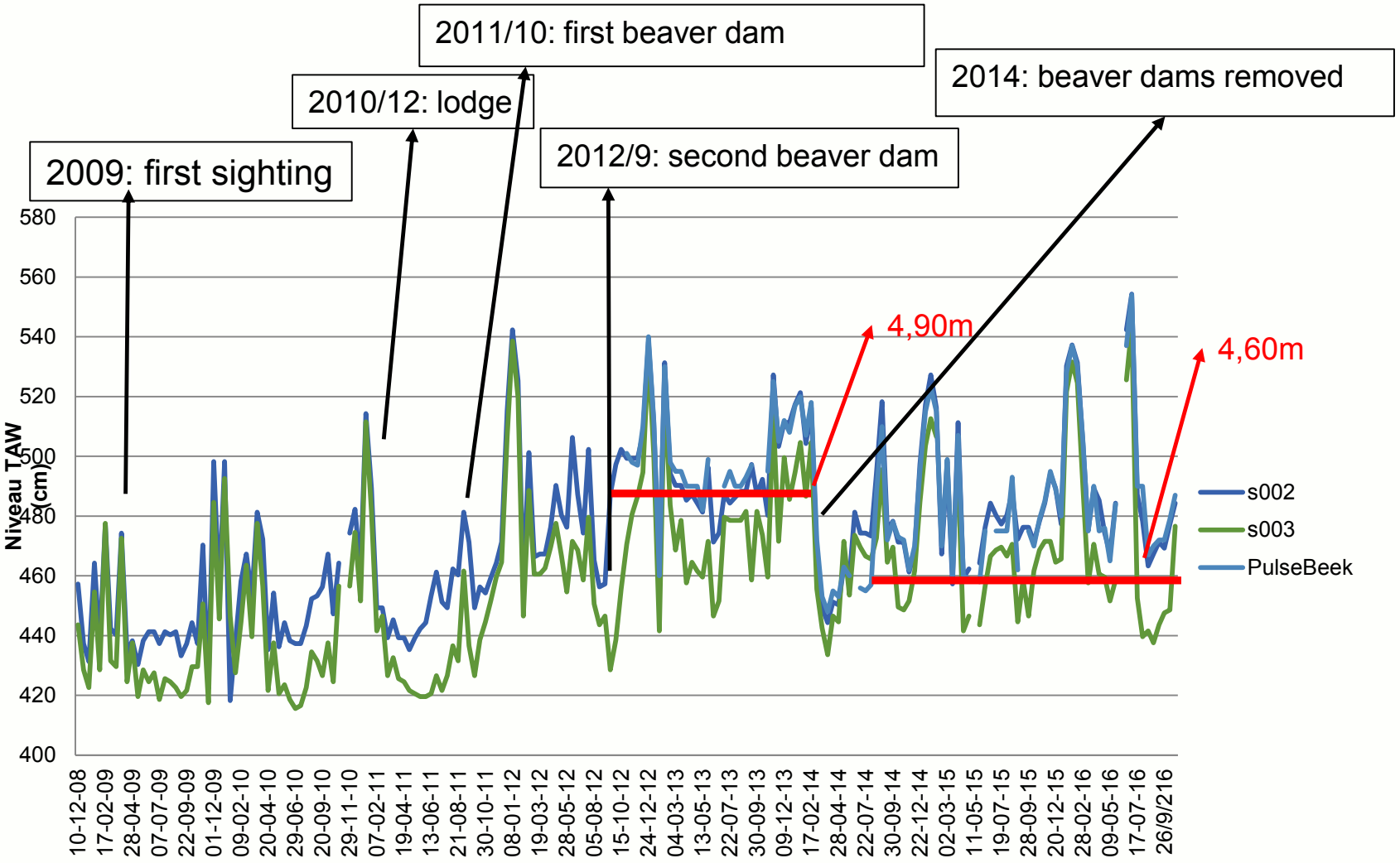


Management for Marsh carpet

- Flooding is detrimental for pupae
- Last sighting of Marsh carpet in the valley of the Nete: 2013



Management for Marsh carpet



Management for Marsh carpet

Situation in the Durme-valley

- Small fragmented populations
- Foodplants in shaded and non-flooded conditions
- Small-scale experiments
  - Grazing proved to be negative for the foodplants
  - Spatial temporal variation in mowing regimes
  - No mowing in (early) summer:
    larvae develop during July

Conclusion & future perspectives

- Although enormous increase in distribution data, knowledge gaps about ecology still remain
- Habitat management for critical species: still experimental
- Providing species-specific management recommandations, especially for those species with 'Natuurpunt-label'

Acknowledgements

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Orthonama vittata
Moeraswalstrospanner
La Phalène du Gaillet palustre
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