

UC Life Denmark



**Threats to the Thick Shelled River Mussel (*Unio crassus*) by
the invasive Zebra Mussel (*Dreissena polymorpha*)
and test of new technology - underwater drone**

**Nordic Platform meeting 2019
Sofia Kølmel, Næstved Municipality**

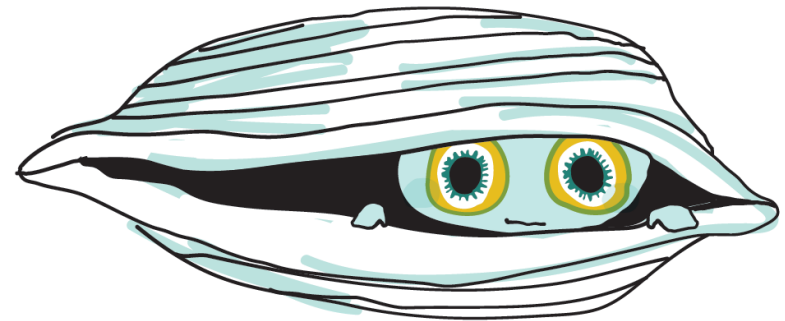
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The LIFE-projekt

Project title:

Actions for improved conservation status of the Thick Shelled River Mussel (*Unio Crassus*) in Denmark



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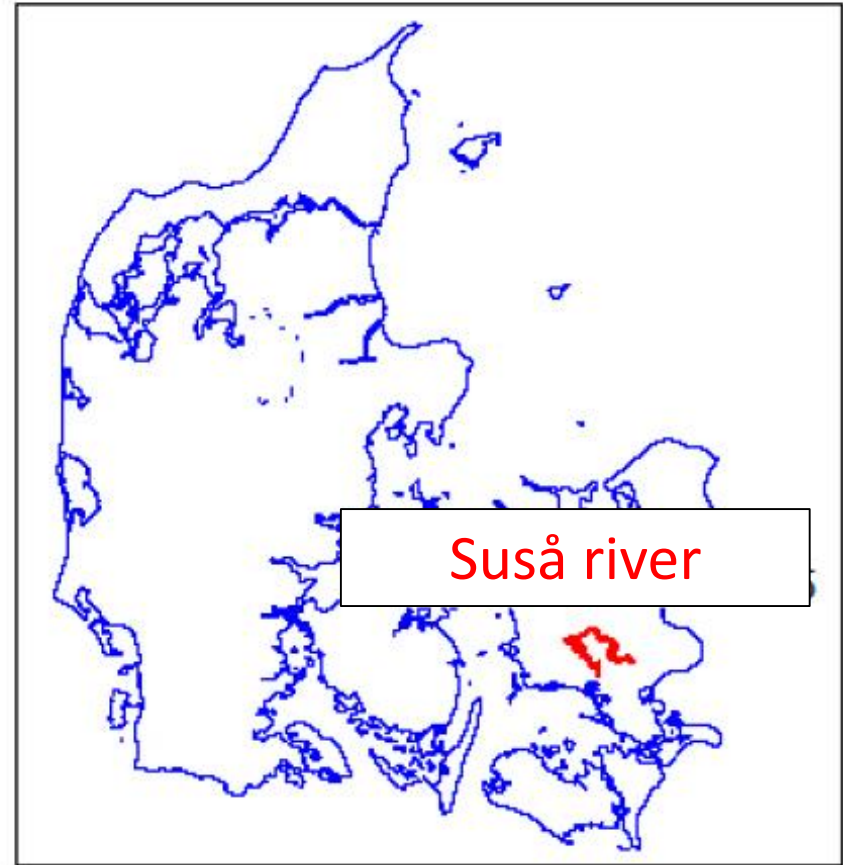


Konklusions

- Filming with an underwater drone is difficult and timeconsuming, but also good visual documentation in deep river systems
- The zebra mussel might not to be a problem for the Thick Shelled River Mussel because of difference in habitat

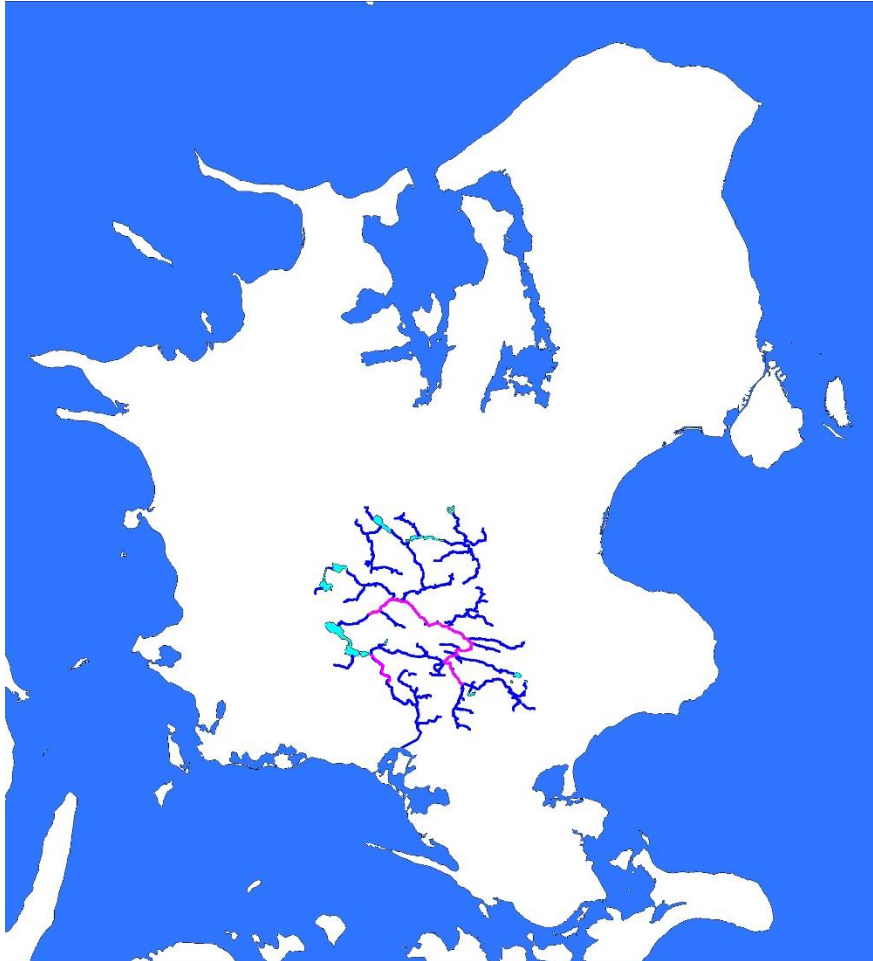
Our project site is the river Suså

Suså is the largest river in Eastern Denmark

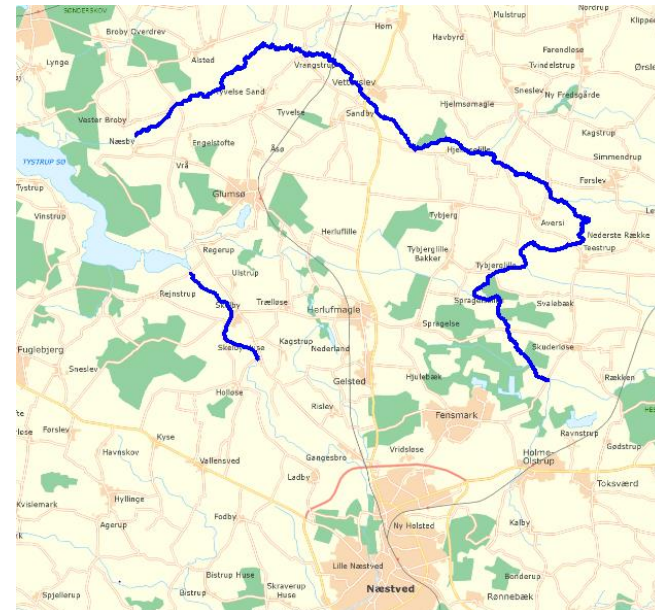


Location of the river Suså

Our project site is the river Suså



- The river catchment area is app. 12 % of Zealand



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The Thick Shelled River Mussel (*Unio Crassus*)



Names - common, scientific, regions etc...  [Advanced](#) [About](#)



Thick Shelled River Mussel

Unio crassus

CITATION

Lopes-Lima , M., Kebapçı, U. & Van Damme, D. 2014. *Unio crassus*. *The IUCN Red List of Threatened Species* 2014: e.T22736A42465628.
<http://dx.doi.org/10.2305/IUCN.UK.2014-1.RLTS.T22736A42465628.en>. Downloaded on 23 August 2019.



NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	< ENDANGERED >	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

POPULATION TREND
 Decreasing

GEOGRAPHIC RANGE


The Thick Shelled River Mussel (*Unio Crassus*)



Believed to be extinct from DK

Found in the river-system of Odense River in 2003

Found in the river-system of the Suså in 2008

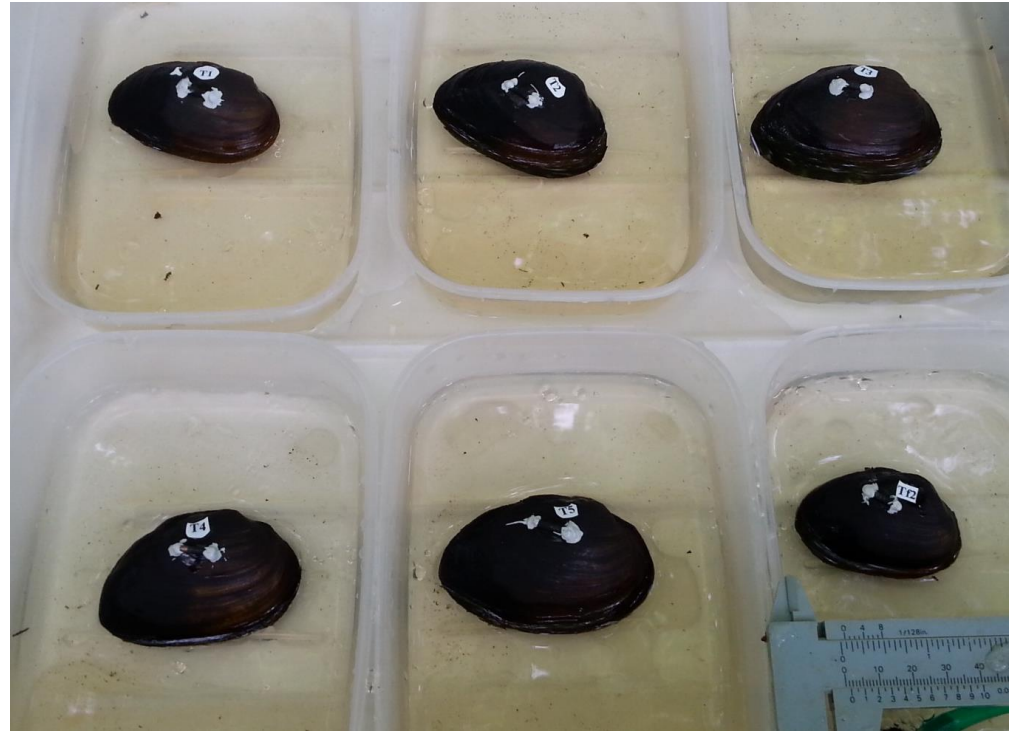
Unio Crassus:

- Filters the water to feed
- Shells are habitat for other organisms
- Lives in the river bed
- Lives 40-50 years (some live up to 90 years)
- Lives in rivers with good water quality and moderate velocity and good physical variation
- Needs host fish to develop

Is a keystone-species to the river



UC monitoring



2017:

Torpe Kanal: 6 living individuals

Upper Suså: 6 living individuals

2018 Three of these died in the hot summer

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The marvelous world of the Thick Shelled River Mussel and its host fish



Host fish (primarily)

Minnow (*Phoxinus phoxinus*)



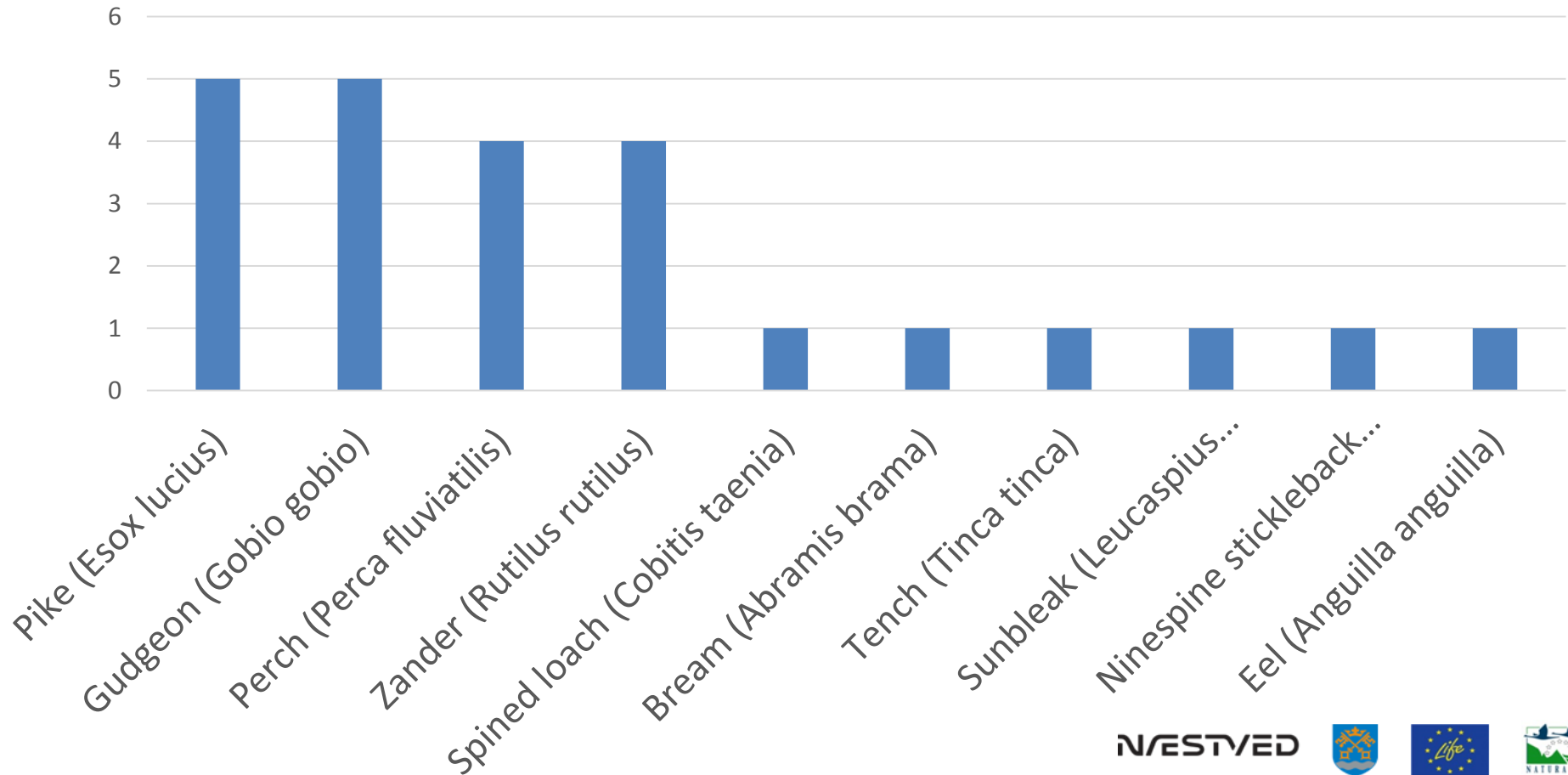
European Bullhead (*Cottus gobio*)



Fish monitoring 2015



Fish per 100 m river



European Bullhead from Sweden

**Skånsk fisk ska hjälpa
hotad mussla rena
danska vatten**



Aftonbladet 2018

Minnow from Funen

Hågerup Å, Funen



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The invasive Zebra Mussel (*Dreissena polymorpha*)

- The Zebra mussel is not dependent of a host fish to develop
- needs a hard surface
- attaches itself with byssus threads



Dreissena polymorpha

The invasive Zebra Mussel (*Dreissena polymorpha*)

- Originally from the Caspian Sea
- Reported in Zealand in 1840
- In the lakes in the Suså river-system the last 40-50 years



Dreissena polymorpha
The IUCN Red List of Threatened Species

The invasive Zebra Mussel (*Dreissena polymorpha*)

- Native mussels are overgrown
- Outperform the native mussels for food
- Native mussels starves
- Movement inhibited



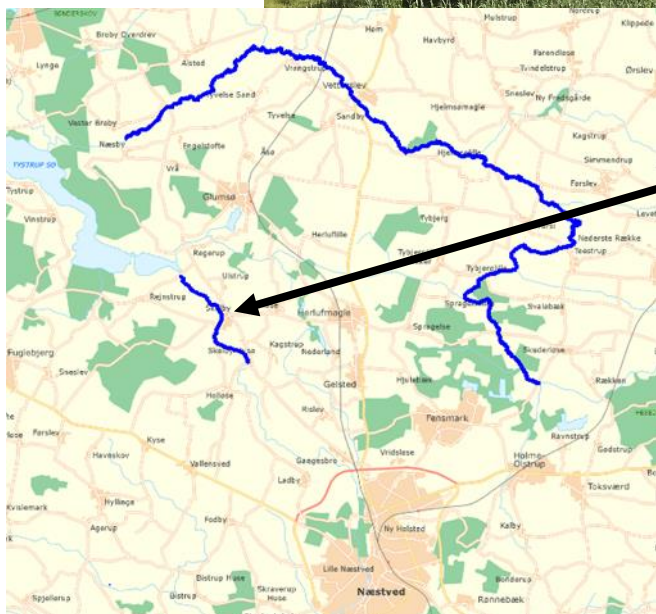
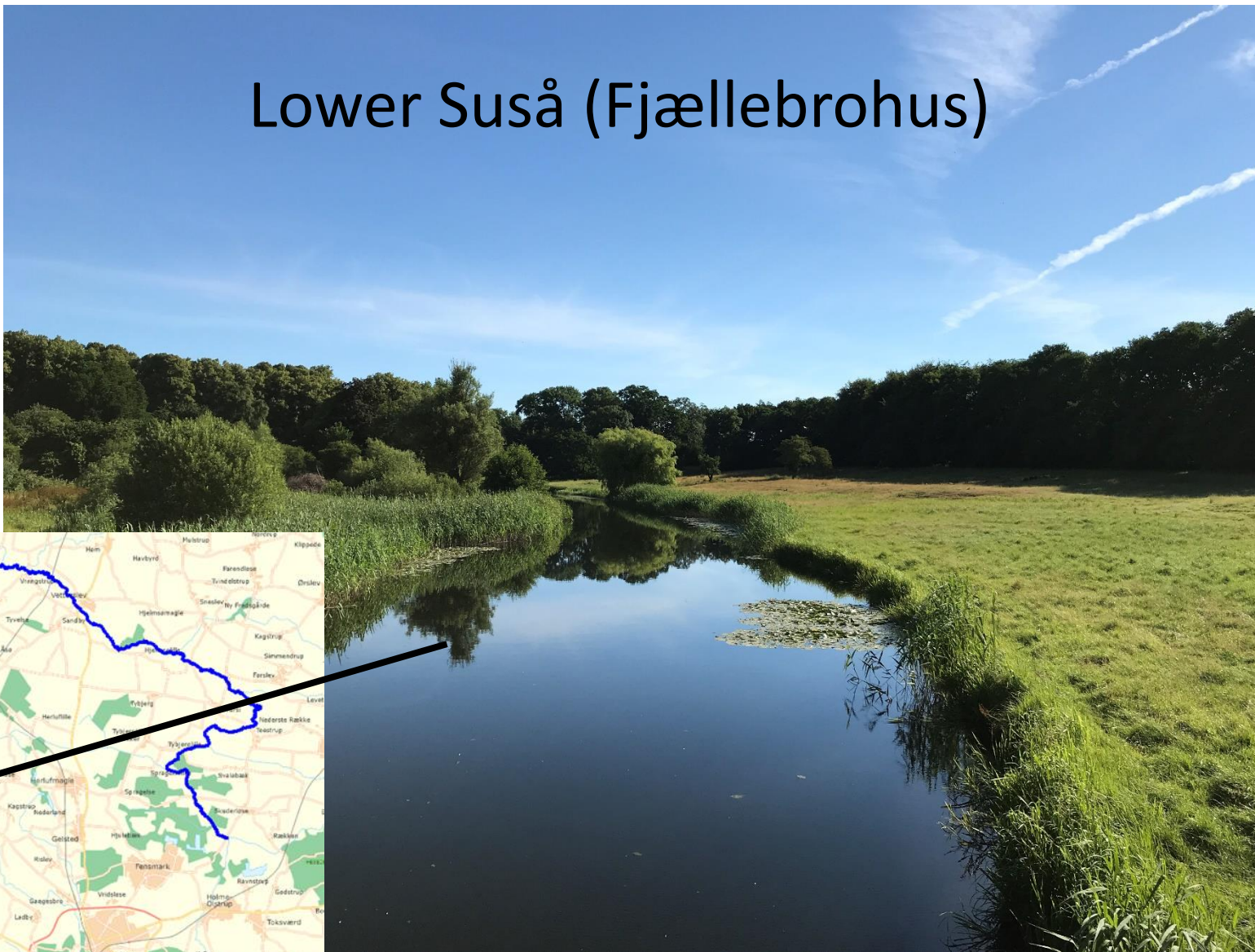
Vejle Amt 2006

Monitoring for the Zebra Mussel?

- Aquascope
- Camera
 - not suitable for deep rivers
- New technology -
Powerray underwater drone



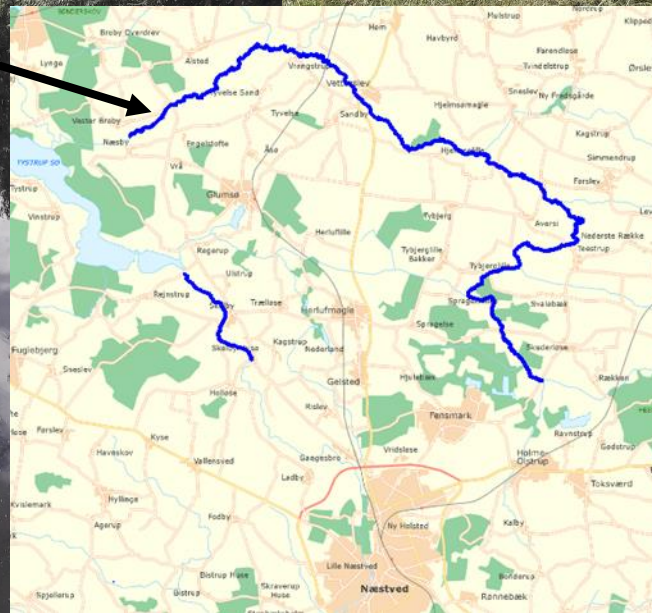
Lower Suså (Fjællebrohus)



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Upper Suså (Næsbybro)



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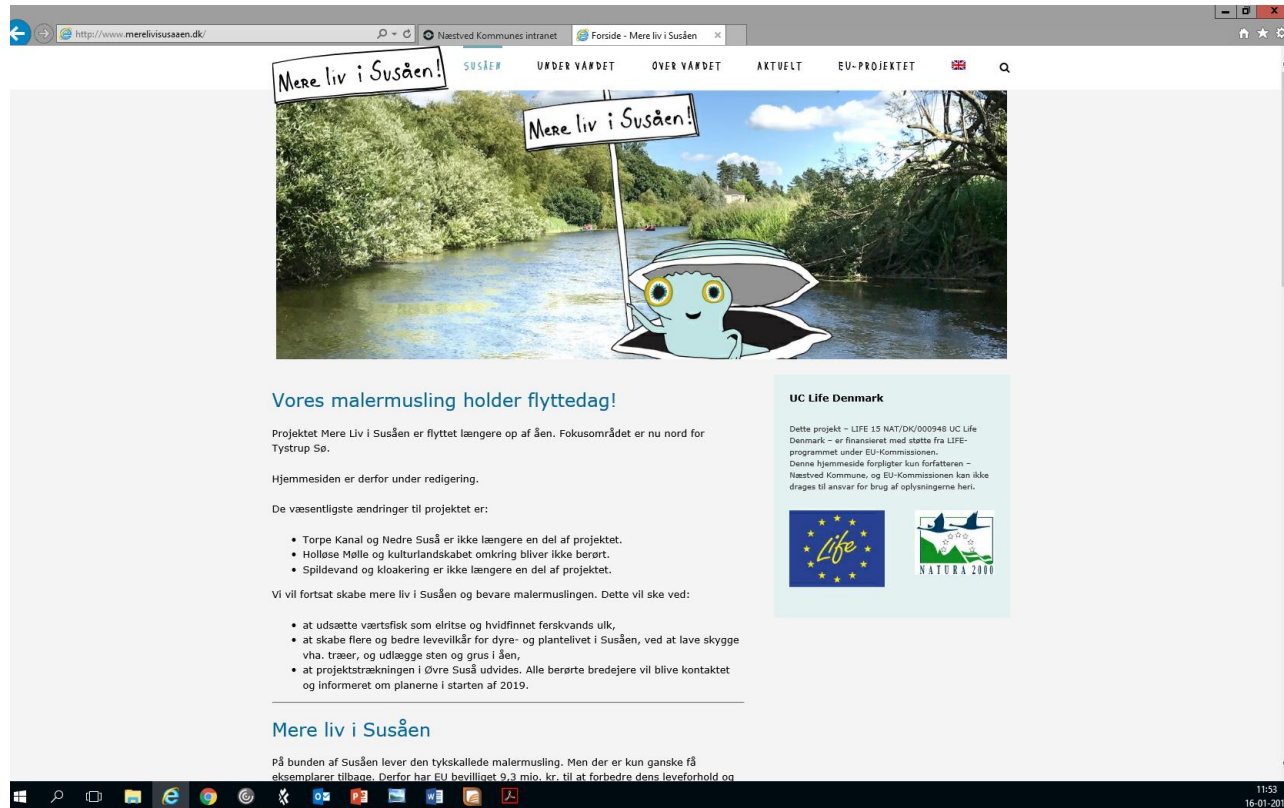


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Thank you for your attention

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