BENDING RIVERS BY MUSSELS



FOR THE BENEFIT OF ALL



OUTLINE...

- The project
- Objectives
- Results and achievements
- The Fyleån Creek
- The thick shelled river mussel (U. crassus)
- Why focusing on U. crassus?





THE UC4LIFE PROJECT (2012 – 2016)











Monitoring and information

Scientific approach

Re-introduction

@ twelve sites

- Site specific measures
- Habitat enhancements
- Migration barriers
- Re-introduction
- Information and Dissemination







ONE VERY CLEAR OBJECTIVE...



A healthier Baltic Sea by landbased measures...

- Water quality improvements
- Increased biodiversity
- Knowledge...
- Public understanding...
- Catalyst ...
- The Baltic Sea as the platform...



THE MOST POLUTED SEA IN THE WORLD



Eutrophication:

- Algal blooms
- Oxygen deprivation (>15%)
- Fish population collapses
- Loss of ecosystem services

Acidification, toxins ... Cocktail effect (?)



LANDBASED SEA PROBLEMS



Fyledalen Valley was drained during the thirties (to gain agricultural areas):

- Changes in hydrology (faster discharge and dryer floodplain conditions)
- Negative impact on the habitats, biodiversity, water quality
- Negative impact on the Baltic Sea



THE FYLEÅN CREEK PROJECT (2013)



The objectives were to recreate the hydrological regime, habitats and connectivity...

Concrete achievements:

- Re-meandering (5 km, 1 km longer today)
- Rising the groundwater level (70 ha)
- Restored wetlands, 9
- Opening up tribs, 4
- Habitats suitable for *U. crassus*
- Re-introduction of U. crassus, previously extinct



CRACKING THE UNIO CRASSUS LIFE CYCLE ENIGMA



1) Functional species, river specific?



2) Farming methods ...



RE-INTRODUCTION OF UNIO CRASSUS (2013 – 14)



80 000 glochidia (200 infected fish) 2 600 juveniles (Schneider boxes) 600 juveniles (control)

?) Survival rates after transplantation...





THE RETURN



The yearling Bob was discovered recently, one year after being transplanted into the Creek

And Bob has followers...

So check Bob's blog out for future adventures



Long term objective is a reproductive population in less than 10 years www.ucforLife.se

WHY FOCUSING ON A MUSSEL?



- A symbol / indicator for a healthy environment Unio crassus = claen water= healthy kids
- Huge historical distribution, today threatened
- Filter the water (40 I/dygn) reducing nutrients
- Long lived, complex lifecycle...
- A good pedagogue



CONCLUSIONS



YES - BENDING RIVERS BY MUSSELS MIGHT JUST WORK(?)...

The work at Fylean Creek is promising and a interesting case study to follow...

Methods for re-introduce *Unio crassus* seems to work, so far so good...

We will do the Klingavälsån River using the same approach this year...

UC4LIFE-project approach replicable in other areas?

There is a huge interest for the project and a lot of spin-offs

THE UC4LIFE GANG



Kiitos että olette kuunnelleet mielenkiinnolla!





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