

# Factors influencing fecundity in the European Eel, Anguilla anguilla

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#### Introduction

• Catches of several species of migratory eels have declined dramatically over the last 40 years

□ Although catch declines can be largely attributed to increased fishing pressure, other factors may have contributed to the declines

One of the most important European eel fisheries is in Lough Neagh

*A.crassus* is known to be present in both Lough Neagh and Lough Erne and is thought to be affecting the ability of the eels to migrate to the Sargasso Sea to spawn

□ This project will examine the influence of *A.crassus* on the fecundity of eels to highlight factors that may be contributing to stock declines and preventing their recovery

#### Improved understanding of factors other than fishing pressure that may limit recovery of declining stocks of the European eel





Parasitic burden per gram body mass (g)

Eggs\_counts\_Neagh ParasiticburdenNEagh Egg\_counts\_Erne ParasiticburdenErne Eggs\_counts\_Neagh ParasiticburdenNEagh Egg\_counts\_Erne ParasiticburdenErne: R<sup>2</sup> Linear = 0.253 Eggs counts Neagh

Linear = 0.022

• Eels from Lough Neagh and Lough Erne are significantly similar in terms of weight, mass, parasite burden and fecundity

• ANOVA reveals *A.crassus* significantly influences eel fecundity in Lough Erne (p = **0.005**) but not in Lough Neagh (p = 0.231)

### Summary

Catches of European eels have declined significantly over the last 40 years

Research shows that A.crassus significantly influences both

eel fecundity and mass in silver eels from Lough Erne

Els from Lough Neagh are less affected by A.crassus infection and have been exposed to the parasite for longer

Further research should investigate the potential of European eels of adapting to A.crassus infection

German 'Mass' is very important in influencing fecundity and management should look at introducing maximum catch restrictions









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