Fatal attraction of freshwater flows: migration of glass eel (Anguilla Anguilla L.) from sea to inland waters

Rob Kroes  
*University of Amsterdam*

Emiel van Loon  
*University of Amsterdam*

Harm van der Geest  
*University of Amsterdam*

Edo Goverse  
*University of Amsterdam, RAVON*

Martijn Scheephouwer  
*RAVON, Nijmegen Reptile, Amphibians and Fish Conservation Netherlands*

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migration of glass eel (Anguilla Anguilla L.) from sea to inland waters

Rob Kroes¹

Emiel van Loon¹
Harm van der Geest¹
Edo Goverse¹,²
Martijn Scheephouwer²

¹ University of Amsterdam
Department of Freshwater and Marine Ecology

² RAVON, Nijmegen
Reptile, Amphibians and Fish Conservation Netherlands
Eel riot of Amsterdam (1886)

Eel pulling
Eel migration

Righton et. al (2016)
Fatal attraction of freshwater flows:

How do water pumping stations affect migration of glass eel from sea to inland waters?

Glass eels

Pumping station
Study location: North Sea Canal
Methods

- Square net sampling
- 11 pumping stations with usable discharge data
- Early March – Late June
- 5 samples in 30 minutes
- 2 times a week 1/2h after sunset
Results: Do pumping stations attract glass eel?

27 glass eels in 1 sample, 5 days after last discharge
Results: Focused on a day after last discharge
Results: Do glass eel discriminate for pumping stations with fish passage?

<table>
<thead>
<tr>
<th>pumping stations without passage</th>
<th>pumping station with passage</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean (N glass eels per sample)</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>1.27</td>
</tr>
</tbody>
</table>
Results: Do new fish passages attract glass eel?

% glass eel per location

N glass eel per location
Discussion

- Water temperature?
- Time of year?
- Chemotaxis?
- Square net sampling?
- Sample time?

- 84h monitoring
Take Home Message: Fatal attraction?

• Glass eel discriminate for fish passages

• Substantial part do swim to wrong places

• Periodic freshwater flows do not attract glass eels

• Who will invent the Glass Eel Transponder?
Thank you!