

TITLE: Mark and Capture study 2023 glass eel season on Severn. Population estimate glass eels.

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Navigation

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2. 2023 Summary

Fishing started on the 22nd March and finished on the 24th March; a total of 477.45 kg was caught (Figure 1). There was an early start to the season with exceptional catches not observed for more than 4 decades. It was possible to release the marked fish between Epney and the Gloucester/Maisemore weirs before any significant catches were recorded.

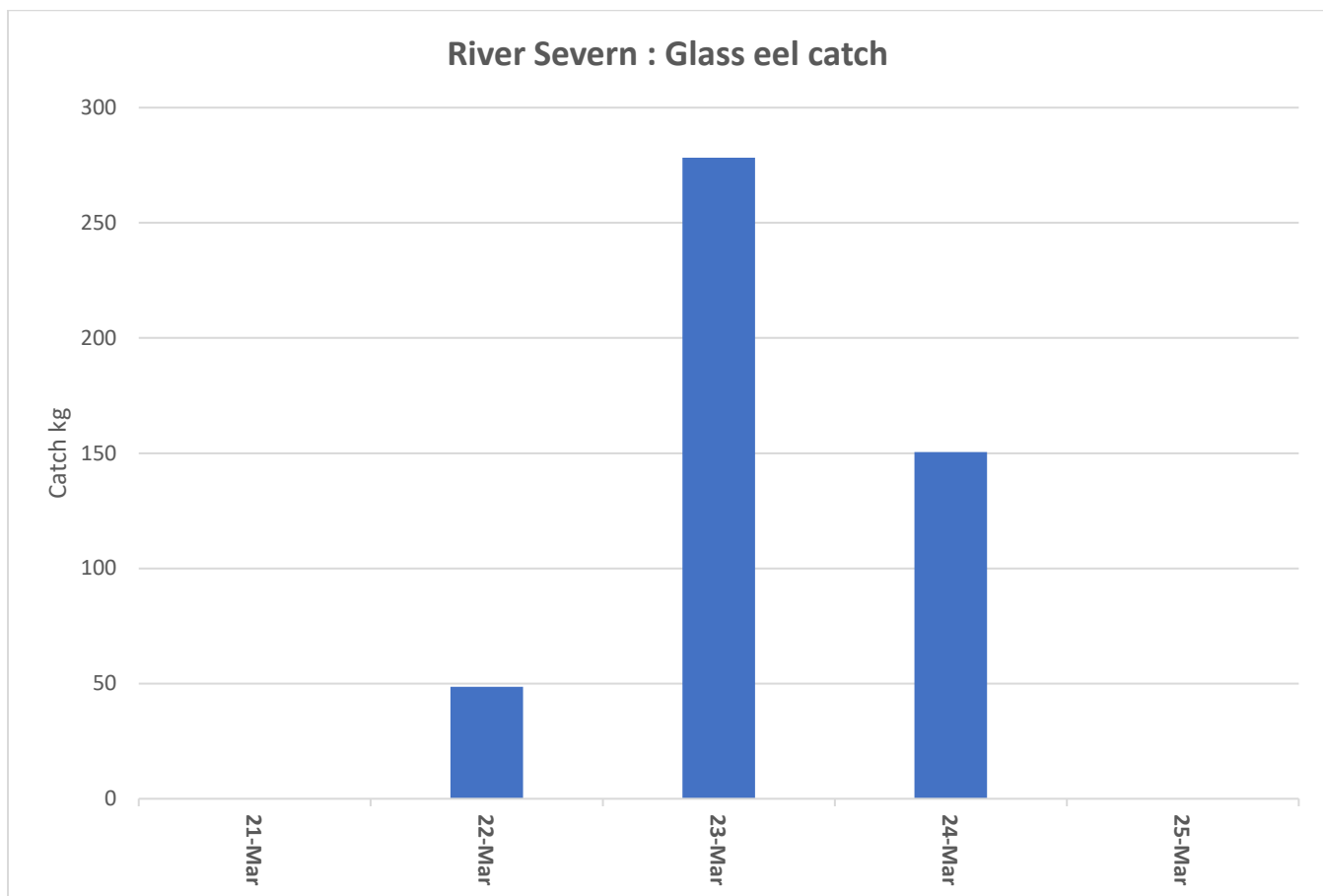



Figure 1. Daily catch of glass eel

The size of the glass eel population was estimated be 76,402 kg, some three times greater than the estimates of 2020 2022. The mean spring tidal cycle exploitation rate of 0.63% was significantly less than that estimated in trial 1 of 2020 of 4.36%. The overall exploitation rate in trials 1 and 2 of 2022 that was estimated to range from 4.7 - 9.6%.

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3. River Severn: Glass eel population estimate

Trial 1

Method: Mark Recapture Date: March 22-24 2023

Release details:

- Stain: March 20 2023
- Release Date: March 22 -2023
- Tide HW Sharpness 08:26 GMT 10.0 M
- Mass released: 8.0 kg
- Number of glass eel / kg: 2,500 glass eels per kg.
- Number of glass eel released: 20,003
- Dye used: Rhodamine β
- Release: From Epney to Lower Parting

Recapture Details and Population Size estimate:

- Recapture: From Sharpness to Brawn Bend

Date	Glass eel caught (kg)	Glass eel caught (number)	Number of marked glass eel recovered	Cumulative number of glass eel recovered	Exploitation rate	Cumulative catch (kg)	Population estimate (kg)
March 22 2023	48.65	121,641	29	29	0.14%	48.65	33556
March 23 2023	278.3	695,843	35	64	0.32%	326.95	102185
March 24 2023	150.5	376,300	61	125	0.62%	477.45	76,402

Exploitation Rate:

- Catch examined for marks: 477.45 kg
- Catch not examined for marks: 0 kg
- Total Catch = 477.45 kg
- Exploitation Rate (%) = $(477.45) * 100 / 76,402 = 0.63\%$



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4. Annex: Mark and recapture trial photos



Counting report UK GLASS EELS

Description: GOODFISH TEST SAMPLE 2

Counted by:

Date: 4.4.2023 11:19

Channel 1

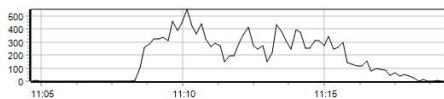
Channel Count: 2494

Size settings: 3 g

Total Count: 2494

Average: 163 fry/min Over load time: 0:00:0 Duration: 0:15:15

Comments: XXXXXXXX PIECES PER BOX

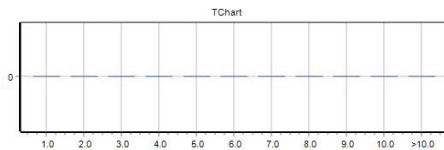


Average Weight: 0.0 gr.

Std deviation: 0.0 gr.

Total biomass: 0 g

Sample size: 0



Path and file name: C:\Users\A\Dropbox\VAki Reports\20230404_GOODFISH TEST_2.mse

Counted with MicroMacro counter from Vaki version: 402402402402402



Counting report UK GLASS EELS

Description: GOODFISH TEST SAMPLE 1

Counted by:

Date: 4.4.2023 11:03

Channel 1

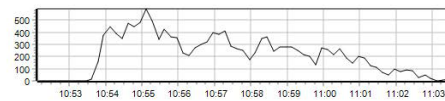
Channel Count: 2441

Size settings: 3 g

Total Count: 2441

Average: 205 fry/min Over load time: 0:00:0 Duration: 0:11:53

Comments: XXXXXXXX PIECES PER BOX

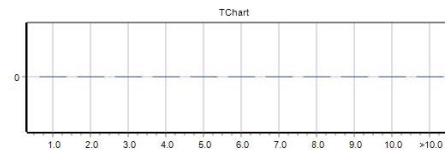


Average Weight: 0.0 gr.

Std deviation: 0.0 gr.

Total biomass: 0 g

Sample size: 0



Path and file name: C:\Users\A\Dropbox\VAki Reports\20230404_GOODFISH TEST_1.mse

Counted with MicroMacro counter from Vaki version: 402402402402402



Counting report UK GLASS EELS

Description: GOODFISH TEST SAMPLE 3

Counted by:

Date: 4.4.2023 11:36

Channel 1

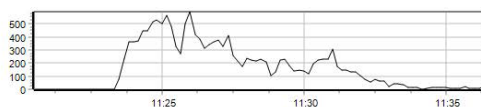
Channel Count: 2566

Size settings: 3 g

Total Count: 2566

Average: 156 fry/min Over load time: 0:00:0 Duration: 0:16:29

Comments: XXXXXXXX PIECES PER BOX

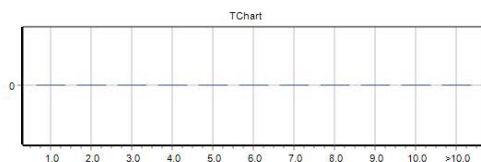


Average Weight: 0.0 gr.

Std deviation: 0.0 gr.

Total biomass: 0 g

Sample size: 0



Path and file name: C:\Users\A\Dropbox\VAki Reports\20230404_GOODFISH TEST_3.mse

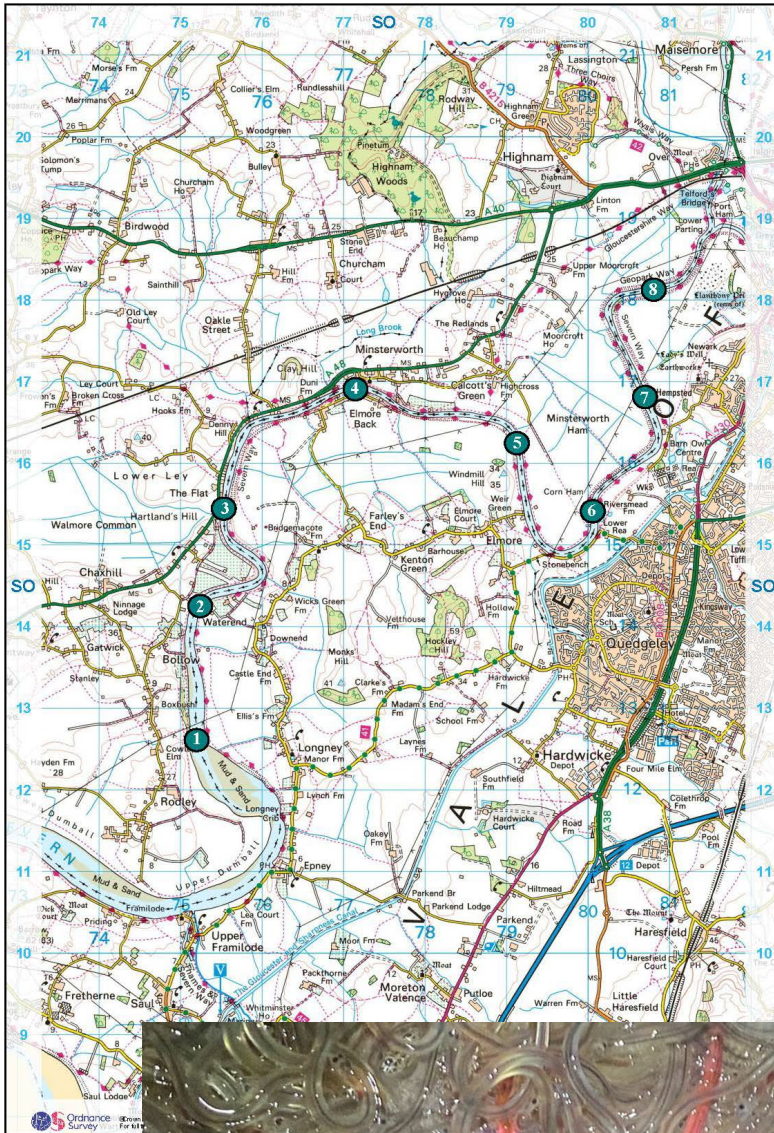
Counted with MicroMacro counter from Vaki version: 402402402402402



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